A prosodic morphophonological analysis of the trilateral perfect passive verbs in Qassimi Arabic

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ABSTRACT

This paper advances a comprehensive account of the pattern of trilateral perfect passive verbs (TPPVs) in Qassimi Arabic (QA), a major variety of Najdi Arabic. Data were collected from 31 native QA speakers from three different generations. Qualitative data collection included both structured and semi-structured interviews along with the researchers’ observations. A mixed analysis approach was used, allowing for both qualitative and descriptive quantitative analysis. Two important points arose from the findings. First, QA exhibits a hybrid morphophonological system and, hence, adopts different trilateral perfect passive patterns (TPPPs), which diverge from those in Modern Standard Arabic in their template and prosodic structures as well as in the morphophonological processes applied to derive these patterns. Second, the study confirms that one feature of a language is changeability since the pattern of TPPVs in QA reveals several diachronic changes among the generations of QA speakers. It is hoped that these findings will add notable insights to the literature on QA, and to the passive construction in particular.

1. Introduction

The morphophonology rubric denotes the linguistic processes that are determined by the interface between morphology and phonology in creating a specific linguistic phenomenon. The phonological and morphological processes are essentially interrelated through language processing and production. In plain words, the lexical morphological representation (morpheme) serves as input for the phonological processes by which sounds are combined to form a suitable phonological representation. For instance, when the morphemes bag and -s are selected, the phoneme sequences /bæg/ and /s/ must be aligned into [bægz] via morphological operation to allow a subsequent phonological process to be performed. In addition, the morpheme integration of words sometimes creates new phonological environments “that vary in how well they conform to universal and language-specific phonological constraint” (Cohen-Goldberg et al., 2013: 2). More specifically, the phonological system of a language works to adjust the combined morphemes to satisfy its phonological constraints. According to Cohen-Goldberg et al. (2013), such phonologically motivated modifications are bound in English which requires that the phonological content of morphemes to be re-syllabified in order to produce the optimal syllables as in play + ing = [pleɪ.ɪŋ].

With respect to the morphological analytical practices, two approaches to word processing have been identified. Words are characteristically constructed through what are widely known as the concatenative and non-concatenative processes (Martínez 2012). Attempts to analyse and regulate the word forms resulting from these processes have led to the evolution of two morphological theoretical models: the morpheme-based model (MB-M) and the word-based model. Blevins (2006) explicates the first theoretical model of morphological analysis which separates recurrent exponents/bases within a system, and encapsulates each of these elements in a specific rule or entry that identifies their grammatical properties to derive the ultimate surface forms through combinatory principles. A clear example is the illustration of the verb worked as composed of two separate linguistic entities—the verb work and the suffix –ed—the latter of which has the property of past tense. The second theoretical model, on the other hand, associates the grammatical properties with the word as a whole, and establishes no rules for combining morphemes into word forms or generating word forms from stems (Beard, 1995). The verb worked, in a simple sense, is recognized as a single lexical entry, and is not segmented into two morphemes.

The application of these conventional morphological models to the analysis of the passive forms remains a controversial point in the universal literature. Typically, the voice system has been defined by...
1. Arabic morphophonological system

Arabic is derived from the Semitic family tree, and is considered genetically as part of the Afro-Asiatic phylum. It is the official language of eighteen nations extending from Mauritania in the west to Iraq in the east (Versteegh 1997). The term Arabic comprises three linguistic entities: Classical Arabic (CA), which is the liturgical language of Islamic religious texts; Modern Standard Arabic (MSA), the language of literature, media, and high-register speech (Al-Saidat & Al-Momani 2010); and colloquial Arabic (Arabic dialects/varieties).

Colloquial Arabic comprises varieties that have developed and diverged from CA as a partial result of various historical and geographical factors. Habash (2010) divided colloquial Arabic geo-linguistically into six groups: 1) Egypt and Sudan, 2) the Levantine, 3) Gulf countries in the Arabian Peninsula, 4) North African, 5) Yemeni Arabic, and 6) Malteze Arabic. Within these varieties, abundant accents and linguistic peculiarities serve as distinguishable markers for each dialectal group. The Arabic spoken in Saudi Arabia, as a subset of the Arabian Peninsular variety, has been classified into five variants, namely, Najdi dialect (spoken in central Saudi Arabia), the northern dialects (northern Saudi Arabia), Hijazi dialect (western Saudi Arabia), the eastern dialects/Gulf Arabic (eastern Saudi Arabia), and the southern dialects (southern Saudi Arabia) (Al-Twairesh et al., 2018; Rayazed et al., 2020).

At the linguistic level, Arabic has been cited as having incorporated Semitic morphological attributes and building its word structure on a root-and-pattern system. The Arabic roots and patterns are systematically defined in terms of morphophonology by describing the word structure, including the combinations of vowels (vocalism) and consonants with reference to the phonological syllabic structure. The basic unit of Arabic words is recognized as the consonantal root which is ordered in a nonlinear position, and carries the core meaning of a word (e.g., the symbols /f-l/ as represented in the root /k-t-b/ ‘to write’) (Ryding 2005). The Arabic root, at the segmental numeral level, could be of bilateral (e.g., /-m/- ‘done’), trilateral (e.g., /k-l-m/- ‘speak’), or quadrilateral (e.g., /-r-dʒ-m/- ‘translate’) radicals. Along the same lines, the quality and type of the root’s radicals or segments classify it as either a weak (defective) or a strong root. Roughly speaking, a root encompassing a glide (i.e., semi-consonant radicals /w/ and /j/) is regarded as weak, whereas the strong root lacks these glides. The weak roots, such as /q-w-l/- ‘to say’ and/or ‘to sell’, are typically prone to more morphophonological changes and irregularities. Given that the derivational behaviour of the strong root is mostly governed by predictable rules that select certain affixes and vowel melodies for specific tenses, some peculiarities are observed in the derivational system of the weak roots. Put another way, it is impossible to generate the perfective verb from the trilateral root /q-w-l/- ‘saying’ by following the regular rules via the pattern /fuʔal/: /q-w-l/- < */qawad/. Alternatively, since the root is a hollow median weak root, the weak verb is formed according to specific rules by deleting or substituting some of the root’s elements, the weak sound specifically, as in the following: /q-w-l/- < */qawad/ ‘he said’ and/or ‘it was said’ to satisfy Arabic phonological constraints (El-Sadany and Hashish 1989). This operation is not exclusive to CA and MSA; Arabic dialects such as Egyptian and Hijazi have also shown a tendency to apply such a process. However, this type of phonologically motivated irregularity does not occur in strong roots, whose radicals remain phonologically stable (Versteegh 1997; Holes 2004).

The procedural correlation between the root radicals and the derivational entities results in the pattern or word which consists of “the vowels or vocalic melody, and the relative arrangement between consonants and vowels (known as the CV template or the prosodic template)” (McCarthy 1994: 23). Arabic verbal patterns have two basic formulations: the simple pattern which has the stem and no derivational

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\[1\] The active voice represents the basic verb from which residual verbs are derived.

\[2\] The term Arabic will be used to indicate both CA Arabic and MSA for the sake of concision.
materials as in the pattern /fəd/ ‘he did’, and the derived or augmented patterns which are formed through different morphophonological processes as in the pattern /tfəd/. McCarthy (1981) considered the trilateral pattern /fəd/ the default pattern from which the other patterns are derived. The patterns are responsible for deriving not only one but rather an infinite number of forms generated through the concatenative or the nonconcatenative morphophonological processes or adjustments. As examples of root-and-pattern productivity, the root radical /-k-b-, connoting the concept of writing, can be plugged into various patterns to produce numerous meaning-related forms as in /katab ‘he wrote’, /katab ‘he dictates’, and /?at?khab ‘asked someone to write’, which have the respective patterns /fəd/, /fa?l/, and /?atufal/. Again, each derived form bears a certain meaning in addition to the core semantic meaning of the root. These semantic features are a lexical property of roots, and the patterns are simply root semantic tendencies (Hallman 2006). McCarthy (1994: 30) commented that ‘the root supplies the basic meaning, and the binyan or pattern supplies some modifications of this meaning or of the verbal diathesis’.

As a means for deriving pattern-correspondent words, Arabic employs concatenative processes, although not extensively. The Arabic verbal patterns /tfəd/ and /tfəl/, as in the verbs /tawqaf/ ‘he expected’ and /taqtala ‘he fought’, are derived from the patterns /fəd/ and /fa?l/, respectively, by adding the prefix ta-. Similarly, the unproductive template /fɑʕɑ/ in its perfective form, as exemplified by the verb /tsɑʕɑ/ ‘he used’, is derived by attaching the prefix a-. An epenthetic vowel and a glottalic stop are also appended to the pattern to satisfy the phonological constraints by avoiding consonant clusters. Furthermore, suffixation in Arabic is regularly found within the domains of gender, person, case, mood, and number. For instance, the plural of the 3rd-person feminine version of the verb /katab ‘he wrote’ is formed by adding the suffix -na as in /katab-na/ ‘they. F. wrote’. This is not the case with the plural masculine, in which the suffix -uu is attached to the verb stem, as in /katab-uu/ ‘they. M. wrote’.

Nevertheless, the nonlinearity of morphemes or the non-concatenativity in Arabic is commonly observed. Arabic involves several nonconcatenative processes including epenthesis (i.e., consonants or vowels are added in the form of infixes within the base) such as the diminutive infix -y ‘/j/’ found in words such as /ku?l/ ‘small dog’ > /kalb/ ‘dog’ (Watson 2007); subtraction, in which vowels are discarded in certain environments due to grammatical rules as in the verb /jamk/ ‘he is walking’ becomes /jam/ ‘he walks’ if it is followed by the item of negation /l/am, particularly in Standard Arabic (Yaari et al. 2012); and the melodic overwriting process which replaces the original vowels of the base with the vowels typical to the prosodic template of the derived form (Bat-El 1994). Laks (2013) provided a coherent example by which the vocalism of the trilateral disyllabic verb /katab/ ‘he wrote’ can be overwritten by /u:u:u/ in the perfective tense to satisfy the perfective passive template /fu?l/, as illustrated below:

The nonconcatenative alternations are supported by an extensive theoretical framework and evidence that aim to describe Arabic morphology, thereby providing the current study with a theory-driven background. The theory of prosodic nonconcatenative morphology elaborated by McCarthy (1981) has logically enriched the Arabic literature, and continues to impact Arabic morphology. Due to its significance to the field, and its role as a framework for the current paper, this theory is presented in detail in the theoretical framework section.

1.2. Qassimi Arabic (QA)

QA is a local variety of Najdi Arabic spoken by approximately 931,085 people living primarily in the Qassim region, which is located in the centre of Saudi Arabia with very little contact with the Saudi borders. It retains some characteristics of ancient Arabian Peninsula dialects (i.e., CA), and thus exhibits a classical image (Abboud 1979). Ingham (1994) adopted the term Najdi Arabic as it incorporates not one but rather a group of spoken varieties located in Najd including QA. He referred to QA as the speech of the Mixed Northern-Central Najd which includes e.g., Buraida, Unizah, AlRass, Bukayryah as well as the Dhafir tribes.

In the context of morphology, Ingham (1994) have examined the linguistic situation of some NA regions. QA resembles Arabic in numerous morphological attributes, yet, it exhibits a few peculiarities. A central exemplar of its distinguished linguistic system is the preservation and the utilization of the pronominal possessive suffix of the 3rd person singular masculine /-ah/ or /-th/ as in /ktab-ah/ ‘his book’ and /ɡlɛm-ih/ ‘his pen’. Interestingly, the use of the masculine suffix /-th/ has extended to include feminine purposes as with /ktab-ih/ ‘her book’ and /ɡamsih/ ‘her shirt’ (Ingham 1994).

Furthermore, and since the present investigation is primarily related to the morphological verbal attributes, the verbal derivational system in QA contains two additional patterns that have no referent in Arabic which Al-Sweel (1981) referred to as the normal potential pattern and the reciprocal potential pattern. He described the potential patterns as the subject’s ability to undertake an action. These verbal patterns undergo utterly complex morphophonological processes. The normal potential pattern is formed by two prefixation processes by attaching the morphemes ti- (or ta-) and n, and the second consonant to yield the pattern /ntfəd/ (Al-Sweel 1981). The process is schematized as follows: /fəvəl/ < /fəd/ < /ntfəd/ < /nt-fəd/. Consider the following paradigm of the given pattern:

(2) a. /fəbəf/ ‘he became full’
   b. /fəbəb/ ‘he made somebody full’
   c. /tfəbəb/ ‘he made himself full’
   d. /ntfəbəb/ ‘he could be made full’

Similarly, the reciprocal potential pattern is formed through prefixation, and is schematized as follows: /fəvəl/ < /fəd/ < /ntfəd/ < /ntvəd/.

The distinguishing marker of this pattern is the lengthening of the vowel in the first syllable of the basic form /sməf/ < /səməf/.

2. Literature review

Arabic is characteristically known to employ internal vocalic change or apophononic processes to indicate the passive voice (Blake 1901). Nonetheless, the degree to which the internal passive is employed among Semitic languages is a subject of debate. Some Semitic languages, including Hebrew, Biblical Aramaic, and Assyrian, utilize reflexive patterns to express the passive voice, as in the Syriac verb /θeql/, the Ethiopic /tæqæl/, and the Hebrew /n̂qæl/, which all mean ‘he was killed’; such is not, however, the case in Arabic. The reflexive patterns in Arabic are not used to denote the passive but instead the active voice (McCarthy 1981). Wright (1975: 49) claims that this pattern is more akin to the passive since it is reflexive in nature and represents the middle voice.

Briefly stated, the concept of the internal passive is differently treated among Semitic languages since most have been exposed to foreign influence (Blake 1901). It is noteworthy that Arabic retains the basic form of the passive that depends on the morphophonological process of internal vocalic changes. Blake (1901) reflected that, unlike most Semitic languages, the passive in Arabic inherited the original Semitic feature, and has not been influenced by external factors. Recent works have suggested that Hebrew has only the reflexive prefixed pattern for the passive voice, while the basic form has no reference within Hebrew speech (Mohammad 2006).
Yet, we question the claim that Arabic has not been influenced by neighboring languages, and still performs the internal passive. It is of critical importance to propose a morphophonological description that examines whether the internal passive is still productive, and whether there are still no utilizations of the prefixed passive form in modern Arabic.

2.1. Passivisation in Arabic and Colloquial Arabic

Arabic adopts /fu'al/ ‘it was done’ as the default passive pattern through which the TPPVs are derived. As affirmed earlier, Arabic has succeeded in generally maintaining this specific pattern, although it is absent from some of its dialects (e.g., Egyptian Arabic). The reasoning to opt this particular form to indicate passivization is presented by Al-Astrabadi (1998: 19) who noted that “this heavy pattern is chosen due to its oddness in formation and this is what the passive form should imply”. McCarthy (1981) has also commented on the Arabic passive pattern /fu'al/ ‘it was done’ as having distinct vowel melodies that always possess the property of passive voice when merged into any pattern, such an assertion will be traced in the patterns of the TPPV in QA.

Considering this background, the status of the passive among Arabic varieties is one of the linguistic matters to be surveyed. Retso (1983) acknowledged the variations of passive structure in colloquial and Classical Arabic, particularly the passive in the perfective aspect across Arabic varieties, as illustrated in Table 1 below (see Tables 2, 3, 4, 5, 6).

Table 1 demonstrates that among Arabic varieties, only NA preserves the internal passive, while other Arabic dialects have submitted to concatenative processes to create the passive perfective form.

In further works on contemporary Arabic, Laks (2013) compared the prosodic templates of the passive verb in Palestinian Arabic and MSA. He argued that, unlike in MSAs, passivization in Palestinian Arabic is based on affixation rather than stem manipulation. Similarly, Maailej (1999) declared that passivization in Tunisian Arabic attaches a prefix to the verb, as in /katab/ ‘it was written’, instead of only modifying the vowel quality. The passive formulation in Egyptian Arabic has also been examined by Jelinek (1981), who showed that Egyptian speakers prefer to use the prefix n- in forming the passive verb rather than ین- as in the verb /tkasar/ ‘it was broken’. In the same vein, several scholars have sought to determine the linguistic features of Jordanian Arabic dialects. For instance, Almashaqba (2015) and Al Huneety (2015) who minutely studied the morphophonological characteristics of two dialects spoken in southern Jordan: Wadi Ram (WR) and Wadi Mousa (WM), respectively. Almashaqba (2015) noted that the trilateral verbs in WR undergo passivization by prefixation and vowel alternation, as shown below:

| Pattern | Example | Variety/dialect |
|---------|---------|----------------|
| /ʔinaʃaʔ/ | /ʔinaʃaʔ/ ‘it was written’ | Dialects of the Fertile Crescent, large parts of the peninsula and most of Nile Delta areas. |
| /ʔinaʃaʔ/ | /ʔinaʃaʔ/ ‘it was written’ | Hijazi dialect |
| /ʔinaʃaʔ/ | /ʔinaʃaʔ/ ‘it was written’ | Yemeni and Hadhramaut dialects. |
| /ʔaʃ/ | /ʔaʃ/ ‘it was written’ | Najdi dialect. |

Further he stated that the patterns /taʃaʃal/ , /taʃaʃal/ , /naʃaʃal/ and /fuʃal/ could also denote a passive or a medio-passive in the speech of Jordanians. Comparatively, the WM dialect embraces different patterns to specify the passive construction, especially in the perfective aspect. The passive verb is created by adding only a prefix n-/ʔ/ (e.g., /ʔ-n-kasar/ ‘it was broken’), whereas in the imperfective aspect, the passive is formed by both prefixation and vowel change (e.g., /ʔ-n-kasər/ ‘it is broken’). Recently, Mashaqa et al. (2020) elaborated on the behavior of the passive pattern in Jordanian Arabic, noting the capability of the anticausative verbs to undergo passivization through attaching reflexive morphemes/prefixes to the stem verb, representing the pattern /n-faʃal/ , which is not the case with the canonical unaccusative verbs. In other words, it is possible to say /n-qaːla l-halib/ ‘milk was boiled’, but not /ʔ-fams n-qaːbaʔ/ ‘*k-qaːbaʔ/ ‘*qub-ʔ/ ‘the sun was set’ (Mashaqa et al., 2020).

Other studies (Hoffiz 1995; Eades 2009) have examined the passive structure of spoken dialects originating in the Arabian Peninsula which comprises the United Arab Emirates (UAE), Oman, Saudi Arabia, Yemen, Kuwait, Bahrain, Iraq, and Qatar. The spoken dialect of Dubai, a state within the UAE, assigns the passive structure by attaching the prefix n- to the verb stem in the sentence /taʃan-k/ n-tårəs/ ‘the tank was filled’ (Hoffiz 1995). Similarly, Eades (2009) traced the properties of the passive verb in the Bedouin Hiydjiwan dialects of northern Oman. In these dialects, the active verb is rendered passive by implementing the pattern.

| Group       | Gender | Number of participants | Education                        | Withdrew | Total |
|-------------|--------|------------------------|----------------------------------|----------|-------|
| Older generation (1960s/70s) | Female | Six | High school and bachelor’s degree | Two | Ten participants |
|             | Male | Four | High school and bachelor’s degree | One |
| Middle generation (1980s) | Female | Six | High school and bachelor’s degree | None | Ten participants |
|             | Male | Four | High school and bachelor’s degree | None |
| Young generation (1990s) | Female | Nine | High school and bachelor’s degree | None | Eleven participants |
|             | Male | Two | High school and bachelor’s degree | None |

Descriptive Statistics for the Productions of the 19 Verbs Among QA Age Groups.
Al-Zahrani is one of the few dialects that still uses the basic passive pattern of Arabic /fuʕal/ [CV.CV.CVC] < /kaθub/ ‘it was written’ with no alterations of the verb stem. Other passive templates also occur in Al-Zahrani dialects including [CV.CV.CCV] or [CVC.CV.CCV] < /ta-kaθar, ʔa-kaθar/ ‘it is broken’ and [CVC.CV.CCV] < /ʔa-ʃar/ ‘it was opened’.

2.2. The status of passivization in najdi Qassimi Arabic

Najdi Arabic, of which QA is a subvariety, has been widely surveyed at various linguistic levels. Johnstone (1967), for instance, has described the
verbs such as the same lines, Ingham (1994) extensively examined the linguistic status of the basic trilateral pattern of the TPPVs in QA and among QA age groups. The outcomes will be helpful in expanding our understanding of the phenomenon under investigation within the limits of critical bounding assumptions.

2.3. Theoretical frameworks

The findings of this study will be based on several theories that will help expand the understanding of the phenomenon under investigation within the limits of critical bounding assumptions.

### Table 6. Descriptive statistics for the 1990s (YG) QA participants.

| Verbs | TPPP. /ʔal/ | S (1) | Freq. | % | TPPP. /ʔal/ | S (1) | Freq. | % |
|-------|-------------|-------|-------|----|-------------|-------|-------|----|
| 1. /ʔakal/ 'he ate' | /wkal/ | 0 | 0 | 0 | /ʔnwekal/ | 30 | 73% | 11 | 100% |
| 2. /ʔa rag/ 'he stole' | /ʔaq/ | 0 | 0 | 0 | /ʔnaaq/ | 23 | 72% | 11 | 100% |
| 3. /ʔaqal/ 'he murdered' | /ʔgəl/ | 1 | 2.5% | 0 | /ʔingəl/ | 27 | 69% | 11 | 100% |
| 4. /ʔa ᵣa 행사/ 'his trampled' | /ʔəfəes/ | 1 | 2.7% | 0 | /ʔəndeŋas/ | 24 | 69% | 11 | 100% |
| 5. /ʔa ʔi/ 'he painst' | /ʔeβə/ | 0 | 0 | 0 | /ʔməʔəβ/ | 23 | 67% | 11 | 100% |
| 6. /ʔa ʔi/ 'he kidnapped' | /ʔstɛfə/ | 0 | 0 | 0 | /ʔməʔstɛf/ | 23 | 67% | 11 | 100% |
| 7. /ʔa ʔi/ 'he stabbed' | /ʔtɛn/ | 0 | 0 | 0 | /ʔməʔtɛn/ | 22 | 66% | 11 | 100% |
| 8. /ʔa ʔi/ 'he broke' | /ʔaʃə/ | 0 | 0 | 0 | /ʔinkəʃə/ | 18 | 62% | 11 | 100% |
| 9. /ʔa ᵣaח/ 'he opened' | /ʔeθə/ | 0 | 0 | 0 | /ʔməʔeθə/ | 17 | 60% | 11 | 100% |
| 10. /ʔa ʔi/ 'he cut' | /ʔɡeʃə/ | 0 | 0 | 0 | /ʔməʔɡeʃə/ | 17 | 60% | 11 | 100% |
| 11. /ʔa ʔi/ 'he betrayed someone' | /ʔədɛr/ | 0 | 0 | 0 | /ʔməʔəɛdɛr/ | 16 | 59% | 11 | 100% |
| 12. /ʔa ʔi/ 'he hit' | /ʔfɛ.demo/ | 0 | 0 | 0 | /ʔməʔfɛ.demo/ | 16 | 59% | 11 | 100% |
| 13. /ʔa ʔi/ 'he bound something' | /ʔbɛt/ | 0 | 0 | 0 | /ʔməʔbɛt/ | 15 | 57% | 11 | 100% |
| 14. /ʔa ʔi/ 'he ran into something' | /ʔʃɛ.dem/ | 1 | 3.8% | 0 | /ʔməʔʃɛ.dem/ | 14 | 57% | 11 | 100% |
| 15. /ʔa ʔi/ 'he charged something' | /ʔfɛn/ | 0 | 0 | 0 | /ʔməʔfɛn/ | 14 | 56% | 11 | 100% |
| 16. /ʔa ʔi/ 'he drank' | /ʔfɛ.b/ | 2 | 7.3% | 0 | /ʔməʔfɛ.b/ | 14 | 51% | 11 | 100% |
| 17. /ʔa ʔi/ 'he ground something' | /ʔtɛn/ | 1 | 4% | 0 | /ʔməʔtɛn/ | 12 | 50% | 11 | 100% |
| 18. /ʔa ʔi/ 'he took' | /ʔwɛbə/ | 0 | 0 | 0 | /ʔməʔwɛbə/ | 11 | 50% | 11 | 100% |
| 19. /ʔa ʔi/ 'he slaughtered' | /ʔbɛθə/ | 4 | 14% | 0 | /ʔməʔbɛθə/ | 13 | 46% | 11 | 100% |

2.3.1. Prosodic morphology

Following the ground-breaking work of Goldsmith (1976), McCarthy (1981) proposed a theoretical framework that defined Arabic morphology under the rubric of *prosodic morphology*. He adopted and further developed the main concepts and apparatuses of autosegmental phonology to the field of morphology. In plain words, prosodic morphology theory handles the nonconcatenative processes by providing deep scheme treatment of words with different levels or layers of lexical representation (i.e., a nonlinear representation of words) namely, the root, the CV skeleton or pattern, and vocalism. McCarthy (1981: 44) advanced some of the prosodic principles that govern the formulation of the patterns, particularly the *prosodic morphology hypothesis*, which states that “templates are defined in terms of the authentic units of prosody” and defined the prosodic hierarchy by which “the prosodic segment is constructed” as follows:

The mora is a unit that determines the syllable’s weight; thus, the analysis of syllabic structure is based on the mora (McCarthy 1981). The most common types of syllables in Arabic are the minimal or monomoraic (light) syllable, CV, and two kinds of bimoraic (heavy) syllables, CVV and CVC (Watson 2007). The association of the C and V, holding the values [segmental] and [syllabic], create the prosodic template.

Secondly, the *template satisfaction condition* demands that the elements of templates be generally the same as the pattern, including stress, syllabification, epenthesis, compensatory lengthening, and rhyme (McCarthy 1981). The trilateral patterns are derived with the reference to one of the following templates:

The passive pattern, however, is generated from the basic pattern /ʔar/ 'he did—basic verb' through what McCarthy (1981) called the apophonic, internal or melodic overwriting process. This pattern is formed by changing the quality of the vowels, not the prosodic template.

Prosodically, the exemplary assumption to the TPP consists of two syllables: light and heavy syllables F [ɲu, ɲu]. To derive the given TPP from the basic pattern /ʔar/ 'he did’, the vowels of the basic pattern were overwritten by the vowel melodies of the TPP /ʔar/ ‘it was done’ (i.e., /a.ə/ < /u.1/). The template as well as the prosodic structure remain intact in both patterns (CV.CVC). The hallmark of this discussion is that the TPP is characterized by fixed vowel melodies /u.1/; McCarthy (1981) added that the melodies /u.1/ in the Arabic derivational system
are meaning bearing and frequently indicate the passive voice when mapping them onto any pattern.

One question arises as to how these linguistic elements (i.e., melodies) are internally represented, and, thus, how they interact to yield the passive pattern /fuwil/ ‘it was done’. Recalling that Arabic is a root-and-pattern system, the verb was analysed by McCarthy (1981), and further scholars, to be situated at three separate linguistic levels. What distinguishes McCarthy’s (1981) analysis from that of other scholars is that he considered each linguistic level as a separate morpheme, thereby introducing the morpheme through the μ notation. McCarthy (1981) expanded beyond the theoretical apparatuses of autosegmental phonology, and presented the morpheme theory through the μ notation. The μ notation specifies that each morpheme contains all and only the feature bundles that are daughters of a single morpheme (μ), and that these morphologically defined morphemes are linked to one tier. The morpheme theory departs from the fact that, in the lexicon, the representation of morphemes resides on independent tiers. Morpheme tiers are symbolized by M or μ. The following figure merely illustrates these concepts:

Figure 2 above presents two morphemes represented at different linguistic levels that are linked by morphologically defined tiers. The root’s consonants with the [-segmental] feature are associated with the C-slot and represent the root morpheme, while the vocalism items with the [-syllabic] feature are linked to the V-slot and represent the vocalism morpheme. However, the coordination of these tiers is not arbitrary. McCarthy (1981), following Goldsmith (1976), conformed to the universal linking conventions and the well-formedness condition. The universal conventions for association are cast schematically, as McCarthy (1981) illustrated, to govern the association of the lower-case melodic elements with the upper-case melody-bearing elements or CV-skeleton. The well formedness condition (WFC) ensures that each vowel associates with the V-slot and each consonant with C-slot and that these tiers do not cross. However, now we turn to the third principle of this framework, the prosodic circumscription, which mainly accounts for processes that include the alteration of the prosodic shape (i.e., inflexion). Nonetheless, since this principle has no implementation in interpreting the findings of the current work, it will not be discussed at length herein (see Figure 1).

2.3.2 Language change

This paper works to trace the morphophonological language changes by demonstrating the variations of the passive formation among various age groups of QA speakers. However, innovation or evolution of the linguistic item must be addressed either diachronically or synchronically. Saussure (1974) referred to diachronic change as changes that occur in a language over time, whereas synchronic studies examine the language as it exists at a particular point. In examining historical changes, linguists have debated which factors have contributed most to the phenomenon of language change. Linguists such as Labov (1972) have asserted that external sociolinguistic factors most commonly prompt language change. Taking another perspective, Weltens (1970) considered internal factors as those making the most contribution to language modifications.

Variations and differences in the passive formation of TPPVs vary among the age groups of QA speakers in both use and formulation, thereby indicating diachronic changes in the pattern of TPPVs across various generations of QA speakers. Third, we predict that diachronic changes over the TPPVs, if any, will be more likely to be adopted by Oassimi women speakers than men. The following section explains the methodology used to test these three hypotheses.

3. Methodology

Adopting the ethnographic, descriptive, and qualitative approach, this paper proposes a study of the passive formation of TPPVs in QA. This section outlines the description of the participants and the sampling.
techniques employed by the researchers. It also clarifies the data-collection instrument and procedure. Then, it presents the qualitative and quantitative analytical processes used to analyse the data.

3.1. Participants

A total of 31 participants were selected based on three criteria: residence, dialect, and age. Only those native QA speakers who were born in Qassim Province and had lived most of their lives there were chosen to participate. Thus, participants who speak a dialect other than QA, or speak QA mixed with other dialects, or who had lived most of their lives outside the Qassim region, were excluded. The 31 participants were categorized into three age groups: a) the older generation group (OG) comprised ten participants who were born in the 1960s/1970s, b) the middle generation group (MG) included ten participants born in the 1980s, and c) the young generation group (YG) consisted of 11 participants born in the 1990s. All groups contained both genders, although they were freely distributed among the age groups as gender was not a controlled variable. Both genders were considered to allow for a roughly illustrative sample of the population. For further information about the participants, please see Appendix A.

3.2. Instrument and design

The data was collected through semi-structured and structured interviews along with researchers’ observations. The interviews were guided by a list that included a total of 19 Arabic verbs that were all triliteral strong verbs and were either transitive or intransitive verbs. Appendix B provides the verb glossary of the current work.

To stimulate the production of these verbs in the passive formulation, two written forms of the interviews were established. One was for the semi-structured interview which contained narratives and visual materials that covered the target verbs. Each of the 19 Arabic verbs had both narrative and visual materials. The narrative materials involved both stories and scenarios. As for the stories, they were selected by the researchers and were popularly, politically, or regionally familiar to the participants. The scenarios, on the other hand, were short stories (i.e., a maximum of three sentences) written by the researchers, and contained the targeted verbs.

The visual materials were used as a supplementary technique to uncover the TPPVs linguistic features that were unexplored by the previous methods. The visual prompts included photos/action cards related to the study’s main verbs, which could be single or serial action cards. The use of narrative and visual methods in interviews has been encouraged by many scholars, including Muylert et al. (2014), as they enhance the richness of the data.

The second form was for the structured interviews which comprised the study’s 19 selected verbs with no other materials (i.e., no photos or stories). The participants were only asked to form sentences containing the targeted verbs. An open-ended question was also included to investigate the participants’ perspectives on using a specific passive pattern.

3.3. Procedures

The data was elicited from the 31 QA participants by using a list that contains 19 Arabic triliteral verbs as presented in Appendix B. The stimuli procedure was done in one session that included both semi-structured and structured interviews (each session lasting approximately 40–50 min) that were recorded with Zoom videoconferencing software. Moreover, the participants were not told about the focus of the study, which is the pattern of the TPPVs, to avoid them subconsciously imitating the Standard Arabic pronunciation instead of their own, or bias themselves to the research’s aims.

In the semi-structured interview, the researchers aimed to examine the passive structure of the verbs in spontaneous speech. This interview implemented narrative and visual materials to prompt the production of the 19 verbs in the passive form. The application of these methods, however, depends on the verb being targeted. That is, some verbs were produced in the passive form on the first attempt, while the production of others necessitated the implementation of more than one method. On specific occasions, such as pronunciation equivocations, all methods were applied to ensure complete and accurate data. The semi-structured interviews began with narrative stimulation that invited the participant into a discussion. Such a step decreases the formality of the situation, thereby making the interaction more natural (Feagin 2013). The discussion then narrowed as the researchers prompted the participants to expand upon their ideas, and tell what they knew about a certain story. For example, to enunciate the passive form of the verbs /bikal/ ‘he ate’ or /saraq/ ‘he stole’, the participants were encouraged to tell the story of the prophet Joseph (in their QA dialect), which contains events of eating, robbery, and killing. The researchers, in turn, circumstanced the discussion by applying the probing technique which includes follow-up questions that urged the participants towards focusing on the action rather than the doer, therefore, they unconsciously shifted to produce the passive structure. However, if the targeted passive form of, for example, the verb /saraq/ ‘he stole’ was not elicited by the story method, the researchers next employed scenarios, which might contain a short story about a robbery and sentences in the passive structure. The researchers spoke the scenario in Standard Arabic, after which the participants reiterated the scenario in their QA dialect as if they were the person who had experienced the event. In addition, the researchers also employed action cards by presenting either a single or serial action cards, in an orderly manner, to the participant, then asking the participant to describe what he conceptualized from these action cards.

The structured interviews immediately followed the semi-structured interviews to examine the passive pattern of the TPPVs in non-spontaneous speech. In this stage, the researchers only used the two-sentence formulation technique, by which participants were induced to form a sentence containing the target verb in both voices (active and passive) to distract the participants from the actual aim of the study. The researchers ended the session by inviting the participants to answer an open-ended question: “why did you produce this pattern rather than the other?”.

As for the observation, it lasted for two months, and took place at gatherings of family and friends as well as at other social events. The researchers employed observation and notetaking techniques by immersing themselves within the society of QA speakers. Notetaking included documenting both verbal and nonverbal attributes of QA speech.

3.4. Data analysis

The obtained data corpora were transcribed and analysed by listening to the recordings and extracting the verbs, then addressing the TPPVs through which the verbs were constructed. The transcribed data was analysed both quantitatively and qualitatively. Chow et al (2010: 1) has asserted that “mixed methods analysis increase the comprehensiveness of overall findings, by showing how qualitative data (Phase Two) provided explanations for statistical descriptive data (Phase One)”. First, quantitative data analysis was employed to calculate the occurring patterns of TPPVs in QA. The verbs as well as the passive patterns that occurred in the interviews were compared in terms of frequency (types and tokens) and percentage among generations. The researchers calculated the frequency of occurrence for each verb in the semi-structured interview (S1), then in the structured interview (S2). For S1, the formula used to calculate the percentages from the frequency scores for each verb was:

However, if the results of a specific generation showed no free determined numbers, the total percentage was calculated by dividing the frequency score of the S1 by the total frequency scores of both patterns’ productions in the interviews. The percentage for S2 was calculated without any formula since each verb was produced only once by each participant.
Subsequently, qualitative analysis was conducted through prosodic and morphophonological analysis of the passive patterns, employing McCarthy’s (1981) framework. Furthermore, in the qualitative analysis, the researchers analysed the participants’ responses regarding the use of a particular passive pattern, and justified their utilization with reference to the frameworks of language change.

4. Results

This paper aimed to investigate the pattern of the TPPVs as realized by 31 QA native speakers from different age groups. In particular, it analysed, both quantitatively and qualitatively, how QA speakers morphophonologically create the TPPVs, and how frequently each pattern was used by a specific generation.

The results show that QA participants employed two patterns for the TPPVs: /fiːl/ and /ʔnfeʃal/. Therefore, this section presents a morphophonological prosodic treatment for the patterns of TPPVs in QA by adopting McCarthy’s (1981) framework of prosodic morphology to address the first goal of this study: investigating and morphophonologically describing the pattern of the TPPVs in QA. This discussion is followed by the quantitative analysis to address the second goal (i.e., examining the difference, if any, among age groups in the formation of the pattern of TPPVs in QA).

To begin with the first passive pattern /fiːl/, theoretically, the QA TPPP /fiːl/ is derived from the pattern /faːl/ through the execution of two nonconcatenative processes: vowel deletion and melodic overwriting. Vowel deletion is technically applied over the prosodic level, causing variations in the syllable structure that, by default, change the pattern’s prosodic shape. In other words, to create the pattern /fiːl/, the pattern /faːl/ operates under the rule of aphaesia by deleting the vowel of the first syllable /a/ of the basic pattern /faːl/, yielding the pattern /fiːl/. The deletion of such an element shifts the trilateral perfect passive template from [CV.CVC] to [CCVC].

Given the resultant pattern /fiːl/ [CCVC], it is now the role of melodic overwriting process to work over the pattern. Unlike the vowel deletion process, this morphophonological process is employed over the segmental level4, leaving the prosodic structure intact. Roughly speaking, the template [CCVC] will not be affected after the employment of the melodic overwriting process. Consider Figure 3 below in which we adopt the devices given by Laks (2013) to illustrate this process.

Figure 3 above shows that the pattern of TPPVs is derived by overwriting the vowel /a/ of the second syllable with /e/, resulting in the pattern /fiːl/. To determine whether the correct vowel of the derived pattern was /a/ or /e/, we examined various verbs that were structured by the participants into this pattern with the Praat software. In Praat analysis, the formants indicated that the correct vowel is /e/, since the vowel in the examined verbs had higher F1 and lower F2 than the those of the vowel /a/. However, the melodic overwriting process here is perceived to function as a feature-changing rule as it substitutes one vowel for another.

From this explanation of the morphophonological operations, we next turn to a prosodic treatment of how these linguistic elements interact to yield the output /fiːl/. Adopting McCarthy’s (1981) prosodic apparatuses, Figures 4 and 5 below elucidate the prosodic treatment of the TPPP /fiːl/ in QA.

Figure 4 displays that the pattern comprises two morphemes (μ) linked to the root and the vocalism. Notably, because the linguistic elements are morphophonologically defined as the root morpheme and the vocalism morpheme, they will associate through the universal conventions and the WFC to produce the final output /fiːl/. Each autosegmental tier appeals to the first universal convention 5 by associating from left to right, representing simple one-to-one association. The vowel association, however, does not completely rely upon the universal convention of association but further conforms to the vowel association rule to ensure the correct association of the vowel melodies with the V-slots of the prosodic template. The rule states that “the melodic element i of the perfective passive and active participle must be associated with the final vowel of the stem” (McCarthy 1981). Since the vowel /e/ constitutes the position of the vowel /i/ in the Arabic passive form, it is invariably subject to such a rule. The process results in the presumed output /fiːl/, which is prosodized as follows:

Based on McCarthy’s (1981, 1990) theory of prosodic nonconcatenative morphology, the syllable structure is prosodized as the coda appears to have a mora. Thus, Figure 5 indicates that the skeletal shape of the pattern /fiːl/ is [CCVC], consisting of one heavy syllable with two moras F [ŋw], and indicates the passive voice.

However, some phonological peculiarities emerged with regard to the hamsha-initial or glottalized verbs /ʔkəl/ ‘he ate’ and /ʔxəʔd/ ‘he took’. Unlike Arabic, the QA data exhibited replacement of the glottal stop /ʔ/ with the sound /w/, thus subtraction/deletion of the first vowel /a/ of the first syllable. Additionally, the vowel of the second syllable was substituted with the vowel /e/, thereby yielding the verbs /wkel/ ‘it was eaten’ and /wxeʃ/ ‘it was taken’. Similar behaviour is found in Arabic dialects such as Cairene Arabic. There were also several notable phonological alternations among the older QA speakers who used the pattern /fiːl/. The verb /qtel/ ‘he was murdered’, for example, was realized as /ktel/ ‘he was murdered’ by altering the voiceless uvular /q/ sound with the velar voiceless /k/. Furthermore, the verb /wkel/ ‘it was eaten’ was mostly produced by the older generation QA speakers as /wseʃ/ ‘it was eaten’ by altering the velar voiceless /k/ with /s/. This linguistic phenomenon is commonly observed in NA speech.

4 Indicates that the morphophonological process operates over the segments of the template, such as by replacing the consonant with another consonant, and imposes no changes on the syllable structure.

5 “If there are several unassociated melodic elements and several unassociated melody-bearing elements, the former is associated one-to-one from left to right with the latter” (McCarthy 1981: 392).
The pattern /ʔmfeofal/ was also observed in the current data to express the passivization structure in QA. This particular pattern showed some variation in production, as most participants produced it as /ʔmfeofal/ and only a few as /ʔmfeofal/. Therefore, given the limited number of verbs that surfaced within the pattern /ʔmfeofal/, it is difficult to generalise this pattern as a basic passive pattern in QA. Within the current analysis, however, we will consider this pattern as a variation of the pattern /ʔmfeofal/ rather than as a separate pattern.

Contrary to the pattern /ʔfel/; the pattern /ʔmfeofal/ is not restricted to the nonconcatenative approach but also conforms to the concatenative approach. Bearing that in mind, to derive the pattern /ʔmfeofal/ from the basic pattern /ʔfel/, the basic pattern must submit to two morphological processes. One is the melodic overwriting process, a nonconcatenative process that functions over the segmental level and serves as feature changing. The melodic overwriting process is performed over the vowel /a/ of the first syllable of the basic pattern /ʔfel/, substituting it with the vowel /e/ to generate the pattern /ʔfeel/. The acquired pattern /ʔfeel/ consequently, undergoes the concatenative process of prefixation. The morpheme /ʔm-/ is appended to the beginning of the pattern /ʔfeel/ to induce the pattern /ʔmfeofal/. In contrast to the melodic overwriting process, however, the prefixation process operates over the prosodic level and causes variations on the prosodic structure as the template shifts from [CV.CVC] to [CVC.CV.CVC].

The prosodic treatment for the pattern /ʔmfeofal/ is of critical importance to the current analysis. To yield this pattern output, a process of morpheme association must take place in the underlying representation. Following McCarthy (1991), prior to the application of such an association, the affixal material must be morphologically defined to properly associate with the CV tiers of the template. In this case, we may define the prefix /ʔm- as having the morphological feature of [passive voice] that identifies this particular morpheme with the phonological shape /ʔm/. Therefore, the prefix /ʔm- is a separate morpheme that appears on a separate tier and is mapped onto the template through the selection of the initial C-slot of the template [CV.CVC], the remaining C-slots received a left-to-right mapping of the root tier. The vowels associate with the V-slots, yet the vowel of the second syllable /a/ conforms to the vowel association rule to ensure the correct association of the vowel melody tier. The internal representation of the pattern is represented in Figure 6 below:

Figure 5. Prosodic structure of the pattern /ʔfel/.

Figure 6. The underlying representation of the pattern /ʔmfeofal/.
used by the participants, but overall, the results of S1 and S2 collectively indicated a significant preference for the pattern /ʔɪʕal/, with a total frequency of 278 occurrences (53.05%), which is considered a high percentage compared to the pattern /ʕɪʕ/, with a total frequency of 246 (46.94%). In more detail, the verb /ʔtnesr/ was the most frequently used, with 19 occurrences, followed by the verb /ʔtnk/ which had 13 occurrences. In contrast, the pattern /ʕɪʕ/ was used frequently with the verbs /ʔb/ and /ʔfes/, which had 16 and 11 occurrences, respectively. Although the difference between the occurrences of the two patterns is slight, the results of the S2 illustrate that the occurrence of pattern /ʕɪʕ/ is encouraged in unsponspontaneous speech among the MG. That is, the pattern /ʕɪʕ/ had a higher total frequency, with 100 occurrences (46.29%), with the pattern /ʔɪʕal/ being less commonly produced, with a total of 90 occurrences (34.88%).

As for the YG speakers, interestingly, the results of the S1 displayed a strong tendency among this generation to utilize the TPPV pattern /ʔɪʕal/ which had total frequency score of 355 (61.84%), compared to the pattern /ʕɪʕ/ which had a frequency score of 10 (1.74%). The pattern /ʕɪʕ/ was realized for a very small number of verbs, such as /ʔb/ with 4 occurrences (14%), followed by /ʔeb/ (2 occurrences, 7%), and then /ʔhen/ with one occurrence (4%). The verb /ʔʔal/ was realized by one participant in the form of /ʕɪʕ/, as in /ʔʔal/, when it was preceded by the negation particle /ma/ ‘not’, as in /ʕɪʕ/ ‘the wheat was not ground’. However, in S2 there was no instance of schematizing any verb in the form of /ʕɪʕ/. The verbs in S2 were all produced in the /ʔɪʕal/ form (100%) by all participants of this subgroup. Figure 8 below summarizes the frequency scores along with the percentages of each pattern for both interviews and observations as utilized within each QA age group.

The frequency scores and percentages in Figure 8 above show the total occurrences of each pattern within each age group as they appeared in the current data. The numbers indicate gradual and orderly diachronic changes over the TPPVs among QA speakers. The TPPVs’ pattern used most commonly by the OG QA speakers was /ʕɪʕ/ (94.30%), with 669 occurrences (632 in the interviews and 37 in the observations). This rate is in contrast to the pattern /ʔɪʕal/ (5.70%), which had 41 occurrences (10 in the interviews and 31 in the observation). The pattern /ʕɪʕ/ has diminished in popularity over time, with a lower percentage (46.94%) among the MG QA speakers and 246 occurrences (216 in the interviews and 30 in the observation). The pattern /ʔɪʕal/, conversely, had a higher implementation among the MG QA speakers, with a higher percentage (53.05%) and 278 occurrences (258 in the interviews and 20 in the observation).

Lastly, the pattern /ʕɪʕ/ had dramatically lower usage among the YG QA speakers (3.40%), with just 21 occurrences (10 in the interviews and 11 in the observations). The YG group, as observed, has predominantly replaced the pattern /ʕɪʕ/ with the pattern /ʔɪʕal/, with an overwhelmingly higher percentage (96.59%) and 595 occurrences (564 in the interviews and 31 in the observation).

5. Discussion

This paper is concerned with establishing an account of the formulation of TPPVs in QA by advancing two empirical claims. First, we hypothesize that QA adopts a divergent trilateral perfect passive pattern (TPPP) to denote the passive voice, which does not conform to Arabic or other Arabian dialects in terms of its prosodic structure, template, and morphophonological process. Second, we contend that each TPPP, derived from a particular morphophonological process, might be produced by a specific QA age group and abandoned by the other age groups. Last, we expect that the diachronic changes over the TPPPs, if any, would be more common among Qassimi women speakers than men.

As illustrated by the morphophonological prosodic treatment earlier, QA differs from Arabic in terms of the implemented TPPP, prosodic structure, morphological system, and vowel melodies. Whereas Arabic has only one trilateral perfect passive pattern /ʕɪʕ/ ‘it was done’, with the template shape [CV.CV] and the prosodic shape F [ʔɪʔɪ], QA comprises not one but two TPPPs: /ʕɪʕ/ and /ʔɪʕal/. These
patterns are represented in two templates [CCVC] and [CVC.CV.CVC] and, thus, two prosodic shapes F [ṣām] and F [ṣā, ū, ṣā].

In a general sense, unlike the Arabic morphophonological system, the derivational behavior of these patterns of TPPVs proves that QA demonstrates a hybrid morphological system which utilizes both the concatenative and nonconcatenative approaches to form the passive patterns. The QA hybrid morphophonological system comprises segmental and prosodic processes (i.e., melodic overwriting and prefixed), unlike Arabic, which uses only segmental processes. Such a conclusion is inconsistent with the claims of Retso (1983), Ingham (1994), and Abboud (2011), who asserted that Arabic and NA, which also includes QA, follow the nonconcatenative approach in structuring the pattern of TPPVs that relies on internal changes of the stem.

Strictly speaking, the literature on NA, which includes QA, exhibits similar conclusions concerning only the pattern /fəl/. NA was recognized by Retso (1983) and Ingham (1994) to have one passive pattern, /fəl/, with an identical template [CCVC] to that of the TPPV reported in our findings [CCVC] for the pattern /fəl/. By using *Prat* software, we observed that the chief difference between these passive patterns lies in the vowel quality of the patterns, which is, in our case, /e/ rather than /u/. Moreover, according to Ingham (1994), the pattern /fəl/ has another formulation when dealing with glottal hamza-initial verbs which schematized as: /fəl/ < /wəzəθ/ ‘it was taken’ [CV.CVC]. However, the data from this investigation demonstrates that the glottal hamza-initial verb has the same pattern and template as other non-hamza verbs (e.g., /fəl/ < /wəkəl/ ‘it was eaten’ [CCVC]). We assert, therefore, that the conclusions of Retso (1983) and Ingham (1994) may be partially supported by the current findings in terms of the template for non-hamza verbs [CCVC] and the morphophonological process—nonconcatenative, vowel deletion, or melodic overwriting—that is followed to create the pattern of the TPPV. The pattern of the glottal/hamza-initial verbs /fəl/ with the template [CV.CVC] was not observed in the current investigation. Abboud (2011)’s suggestion, furthermore, contradicts the current findings since the pattern of the passive that he proposed, /fəl/ with the template [CV.CVC], was not addressed by the elicited data.

The current results contribute to the literature on QA evidence of an additional pattern of the TPPV that emerged in the data of the study. The pattern /ʔməfəl/ was not previously detected in the surveyed literature of NA, to which QA belongs, yet it was observed to have the same template [CVC.CV.CVC] of the TPPVs as certain Arabian dialects, such as the spoken dialects of Abba and Wadi Ram (AlAzraqi 1971; Almashaqba 2015). However, the vowel melodies are the only variant among these Arabian dialects since QA adopts the vowel melodies /1.e.a/ for this particular passive template, whereas the above-mentioned dialects implement the vowel melodies /1.a.a/.

Furthermore, the findings divulged that TPPV patterns in QA do not share common vowel melodies. On the contrary, QA has two vowel melodies distributed into two patterns: /fəl/ and /ʔməfəl/. Accordingly, we suggest that the vowel melodies in QA, unlike in Arabic, are not meaningful in isolation. They are dependent on the surface pattern or template which, as a composed linguistic unit, indicates the property of the passive voice. For example, when mapping the vowel melodies /1.e.a/ onto the basic pattern /fəl/ by virtue of deriving the passive form, we obtain the opaque and meaningless pattern /fəl/. Therefore, the vowel melodies in QA are not the only abstract linguistic elements that determine the property of voice; the arrangement of the consonants as well as the vowels are also of critical importance in creating the passive form. This finding adds to McCarthy (1981)’s assertion of the passive pattern melodies a further note. That is, McCarthy (1981) considered the vowels /u./ passive morphemes because once these vowel melodies are merged onto the basic pattern /fəl/, the process will result in the passive pattern /fəl/. This is also applies to other derived patterns in Arabic such as /fəl/ ‘active form’ < /fəl/ ‘passive form’, /ʔfəl/ ‘active form’ < /ʔfəl/ ‘passive form’. The primary analysis of the current findings suggests that this is not the case in QA, in which the vowel melodies do not occur according to the pattern; thus, further examination is needed with regard to such assumption.

As for the morphophonological diachronic changes that have been attested in the patterns of the TPPVs in QA across generations, the statistics indicate variations in the employment of two patterns: /fəl/ and /ʔməfəl/. The results show an abandonment of the Arabic passive pattern /fəl/ to the adoption of the QA passive pattern /fəl/ by the OG and MG speakers. Pronunciation simplicity may stand as a reason for the complete adoption of the pattern /fəl/ as expressed by a number of OG participants. In more scientific terms, we may add that the natural use of vocal organs within QA speakers can encourage the implementation of a sequence of two consonant clusters, as in the pattern /fəl/. This note accords with Atchison (2001), who considered phonology a major internal factor behind individuals’ changes to their speech. Moreover, the speech of the OG displayed a very slight usage preference of the pattern /ʔməfəl/. They referred to this pattern as a ‘foreign passive pattern’ that they acquired it from younger generations, and used it as a way to facilitate communication with younger QA speakers.

Clearly, the MG and YG speakers tended to adopt the rather complex pattern structure /ʔməfəl/. The MG speakers realized both patterns, /fəl/ and /ʔməfəl/, in spontaneous and unspontaneous speech. We assume that the use of two types of patterns by these speakers to express the passive voice might be a result of their exposure to the OG speech, and the influence of other speech varieties, due in part to the technological revolution of the 1980s that simplified contact with other speech communities. The pattern /ʔməfəl/ has spread among the MG speakers through contact with other dialects, and MG speakers have both passively accepted and intentionally adopted this pattern, since they showed a determination of what pattern to produce according to the context. Thus, this inference supports Andersen (1973) and Kroch (2001), who claim that linguistic difference is encouraged through cultural interaction, falling under the rubric of adoptive/contact change. Moreover, as stated earlier, the alternation between the patterns /ʔməfəl/ and /fəl/ was a matter of choice among the MG speakers. Most participants switched from /fəl/ to /ʔməfəl/ in formal settings due to the informality of /fəl/. Other participants clearly stated that the alternation was an attempt to accommodate modern speech, since the pattern /fəl/ is less prestigious, and the pattern /ʔməfəl/ is mutually intelligible. This finding is consistent with Atchison’s (2001) assertion that alternations in speech for the sake of prestige form an external source of language change.

The continuity of employing this new pattern /ʔməfəl/ by the YG group, which has become a traditional pattern among this generation, and the near-complete abandoning of the other pattern /fəl/ is due to the asymmetrical relation between the norms and the productive system, as proposed by Andersen (1973). Based on this premise, assuming that the YG was not familiar with the new linguistic entity, they would be guided by the productive system. Given that the novel entities have a simpler relation to the productive system, they may be evaluated as simpler and more natural and, hence, be more frequent among the YG community members. In other words, the YG purposelessly acquired the pattern /ʔməfəl/ from the MG group, since the latter preferentially and frequently utilized the pattern /ʔməfəl/; thereby leading to the systematic regularity of this pattern among YG Qassimi speakers. This conclusion aligns with that of Kroch (2001) and Andersen (1973), who considered the process of false transmission of linguistic elements between generations as a type of evolutive innovation/change. Along similar lines, the influence of other speech communities has also contributed to changes in the YG speech since the current era facilitates contact with other linguistic communities, defined by Andersen (1973) as an adoptive/contact change.

Given the limits of the current study, it is practically impossible to determine from the elicited data the exact reasons that factored into the
diachronic changes of the patterns of TPPVs in QA without considering all the social, personal, and cultural variants. Considering only the participants’ age would not suffice to answer the question of why diachronic changes have occurred, yet does clarify certain explanatory aspects related to such changes. There remain, however, several other elements of note in the obtained data. Although the pattern /fiːl/ is the basic QA pattern, the change in patterns from /fiːl/ to /ʔɪnfeʕal/ is more commonly observed in women speakers of the MG and YG groups more than in men, indicating that women are more likely to adopt such changes. Previous studies that have been conducted in the West (Romaine 2003) and on Arabic (Al-Wer 1999; Bassiouney 2009) have argued that the use of urban, modern and prestigious forms is mostly linked with women, since women are more sensitive and innovative than men to linguistic changes and prestige patterns (Labov 1972b: 243; Abu-Haidar 1989:479). Women use prestigious forms due to certain professional and economic differences.

6. Conclusion

As formerly stated, the main purpose of this paper was to offer an investigation of the pattern of TPPVs as produced by 31 QA speakers by tracing them across three QA age groups. The investigated patterns were analysed and explained in light of prosodic morphology theory and the relevant literature, and the exact diachronic changes that attest to the tracing them across three QA age groups. The investigated patterns were investigated patterns (Labov 1972b: 243; Abu-Haidar 1989:479). Women use prestigious and innovative than men to linguistic changes and prestige processes. Second, each of the patterns in QA was produced by a particular age group, which, in turn, indicated diachronic changes to the pattern of TPPVs. The pattern /fiːl/ was extensively produced by the OG but much less so by the MG, who interchangeably used this pattern with the /ʔɪnfeʕal/ pattern. The YG, in contrast, utilized the TPPV pattern /ʔɪnfeʕal/ as a basic and formal pattern to express the passive voice, and had largely abandoned the pattern /fiːl/. The change in the passive patterns from /fiːl/ to /ʔɪnfeʕal/ is more commonly observed within women of the MG and YG groups than in men. Such diachronic changes of these QA patterns, which differ from those found in Arabic and from one another, have been encouraged by various internal and external factors such as cultural interactions and fashionability.

This study provides insights into the morphophonological field. We hope that the findings will contribute to the field of morphophonology in Arabic in general, and QA specifically, by providing evidence of how a dialect (e.g., QA) of a certain language (e.g., Arabic) can follow a different morphological system, especially with passivization forms. It will also contribute to the field of historical linguistics by tracing the observable reasons for this development of the pattern of the TPPVs.

Finally, a fair number of limitations to this study are worth empha-
sizing. First, the participants’ gender variant was not controlled due to the cultural norms of QA, as controlling for gender would have consumed more time and effort to achieve than was possible in the present work. The current paper also indicates some remarkable instances of language changes that are encouraged by speaker gender, which could be addressed in further research by using inferential statistics and considering participants’ age, gender, social status and further individual characteristics to accurately determine the source of the linguistic changes.

Declarations

Author contribution statement

Raghad Alkhudair: Conceived and designed the experiments; Per-
formed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Mohammad Aljuately: Conceived and designed the experiments; Per-
formed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data.

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