The Arabic Root and the Peculiarities of Its Language Categorization (Structure and Inflection)

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Abstract: This article discusses the peculiarities of the Arabic root, its phonemic structure, and morphological categorization. The pure appearance of the Arabic root in language categorization allows you to separate the onomatopoeic feature of inflectional structure and phonetic rules of the Arabic language by which the root is categorized. This phenomenon of meaningful consonant phonemes in the Arabic roots makes the theory of onomatopoeia practicable not just only in Arabic but also in other Semitic languages. Moreover, the first consonant of an Arabic root usually contains the word's primary, essential meaning, and the second and third lookup. Also, in this work, it is noted that the grammar of the Arabic language has many features aimed at preserving the "purity" of the language and ensuring its continuity. It means that Arabic grammar is working as a trusted keeper of Arabic; therefore, the rules of this phenomenon are well prepared by old Arab grammarians. The Arabic root can show very useful organized peculiarities making Arabic so easy to understand and makes the Arabic words formed systematically. The article reveals "the Arabic law of language self-defense" and its basic rules, such as the principle of progressive language categorization.

Keywords: Arabic, root, Categorization, Arabic law of self-defense, the integrity of the word.

INTRODUCTION

Despite the long history of investigating the peculiarities of the Arabic language and the vast amount of works in Arabic linguistics, the comprehensive analysis of the inflectional categorization of the Arabic root has not been the object of special focus in terms of different language layers. Some linguists view sound imitation of essential elements as the separate language phenomenon (Ibn Khaldun, 2005; Ibn Jinni, 2011; Al-Khalil, 1985). Others studied the Arabic root as a part of morphology (Girgas, 1873; Sībawayh, 2004). Some works focused on its morphological structure apart from sound imitation or syntactic peculiarities (Ibn Khaldun, 2005; Melchuk, 1963; Ali, 2009; Watorek, Rast, Yu, Trévisiol, Majdoub, Guan, & Huang, 2020). That is why we find it logical for the Arabic studies to concentrate on the full systematic inflectional categorization of the Arabic root, and its sound imitational qualities. The given paper is aimed at investigating the inflectional categorization of the minimal elements of the Arabic root and its correlation with the sound imitational language properties (Ameur, Meziane, & Guessoum, 2020). An attempt is made to unite and explain the following peculiarities of the Arabic root: sound imitation, the system of vowel signs, and morphological models in the sequential chain, which starts with the physiological semantics of the basic elements and develops up to the highest level of language categorization – syntactical. The work aims to observe the whole sequence of inflectional categorization of the Arabic root, starting from the primary (minimal meaningful) elements up to the morphological and syntactical categorization. This concept is innovative in Arabic linguistics and can become a specific base for studies in the given area (Abdel-Hady, & Branigan, 2020).

LITERATURE REVIEW

Various authors have studied the subject of this article. For example; Abdel-Hady, & Branigan (2020), say: The three-consonant root, emphasized by the Arabic linguists, reveals the close relationship among all Semitic languages such as Ancient Hebrew, Aramaic, Arabic since the three-root syllable is a characteristic feature of the whole Semitic group. Focus on the root caused the revelation of the Semitic lexis and the lexis of the languages into which the Holy Scriptures, e.g., the Slavic Gospel, were translated. This is explained by the fact that "the lexicographical issues of the Slavic Gospel remain unsolved unless the word roots of New and Old Testament are clearly established". Al-Foadi, & Mingazova, (2018), says: Transparency of the Arabic root allows the linguists interested in investigating the ancient Semitic linguistic

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phenomena (both in dead languages, e.g., Aramaic and Acadian, and existing languages, e.g., Arabic), e.g., the dual number, in studying different problems on the material of the Arabic language which has retained the mentioned phenomena. Sībawayh (2004) says: This principle, which defines parts of Speech in the Arabic language, served as the irrefutable principle for making the verb one of the main parts of Speech in the book "Al-Kitāb" – the Quran of grammar. Following Khalif Ali, Sibaweih also claimed three parts of Speech in the Arabic language – the name, the verb, and the "harf" (Arab. "a letter"; includes particles, prepositions, conjunctions, interjections, form words). Sibaweih interprets verbs as the actions which are deduced from the nouns…". Ibn Khaldun (2005) believes that: The possibility of extracting the Arabic root does not only allow the linguists to determine the additional phonetic, semantic, morphological, syntactical, and lexical features and meanings that the root acquires as the result of inflectional changes. It explains the "economic qualities" of the inflectional categorization as well. The above-mentioned examples show that there are no form words or affixation. Thus, we can agree with Ibn Khaldun, who refers to the words of the Islamic prophet Muhammad: "Speech collectors were given to me, and the speech was reduced for me", claiming that the Arabic language "economizes" on the language means and is categorized in the overwhelming majority of cases by vowel alteration which causes the quantitative change of the consonants. He also adds that since the Quran is considered as the holy book of Islam with its texts having been compiled in accordance with the grammar of the Arabic language, even nowadays the grammatical accuracy of the Arabic language is checked by means of the Quran texts.

METHODS

The Arabic linguistic tradition initially emphasized the main principle of systemizing the Arabic grammar, proposed by Khalif Ali. This classification pointed out three parts of Speech. Ali ibn Abu Talib defined parts of Speech as follows: "Speech is divided into names, verbs, and harfs. The name is what nominates, the verb is what informs us about the nominee, and the harf is what refers to the meaning without being the name or the verb" (Zqagi, 1978; Ameur, *et al*., 2020). This makes clear why the grammatical craft of the Arabs became ultra-modern in the medieval grammatical lore (Bidaoui, 2017). This is explained by the fact that the dual number is fully developed only in the Arabic language because it spreads over to all kinds of nouns, adjectives and is also met in the verb forms (Abdel-Hady, & Branigan, 2020). Thus, emphasis on the root in the Arabic language as the most active existing language of the Semitic group is of utter importance not only for the Arabic language itself but also for linguistic science. That is why we must shed light on the impact of this phenomenon on the linguistic tradition.

Thanks to the possibility of the root extraction, all the grammatical categories of the Arabic language system, including inflections and phonemes, are clearly extracted as well. Thus, the Arabic root (ktb) with the general idea of "writing" is found in the same root words which have different morphological categories: kataba "to write" → kātib "a writer" → kuttāb "writers" (Reformatski, 1996); the productive Arabic root (kbr) with the general idea "big" is clearly noticed in words kabīr "big", kibār "big (plural)", kubrā "the biggest (feminine)", kabura "to be big", marked by the inflectional categorization (Melchuk, 1963). Owing to the fact that the Arabic root may be clearly extracted in the language categorization, quantitative changes of its sound content5, occurring because of the alteration of vowels and marking the language categories of the Arabic language are easily extracted as well. Examples of these are the indefinite forms of the Arabic verbs such as kataba "to write", darasa "to study", ḫalaqa "to create", ḥarasa "to guard" in which the concentrated scrutiny of the root leads to the extraction of the inflectional categorization of the Arabic language – phonetic, semantic, morphological, syntactic, and lexical – employing vowel alteration.

So, kataba "to write" is the indefinite form of the Active verb → kutiba "to be written" – the indefinite form of the Passive verb → kātib "a writer" is the noun and the feminine, singular, active participle → kuttāb "writers" – the noun and the masculine, singular, active participle; darasa "to study" – the indefinite form of the active verb → durisa "to be studied" – the indefinite form of the passive verb → dāris "the person who studies" – the noun and the masculine, singular, active participle → dars "a lesson" – the singular, masculine noun → durūs "lessons" – the plural, masculine noun; ḫalaqa "to create" – the indefinite form of the active verb → ḫuliqa "to be created" – the indefinite form of the passive verb → ḫāliq "a creator, a creating person" – the noun and the masculine, singular, active participle; ḥarasa "to guard" – the indefinite form of the active verb → ḥurisa "to be guarded" – the indefinite form of the passive verb → ḥāris "a guard, a guarding person" – the noun and the masculine, singular, active participle.

Arabic is usually, but not universally, classified as a Central Semitic language. It is related to languages in other subgroups of the Semitic language group (Northwest Semitic, South Semitic, East Semitic, West Semitic), such as Aramaic, Syriac, Hebrew, Ugaritic, Phoenician, Canaanite, Amorite, Ammonite, Eblaite, epigraphic Ancient North Arabian, epigraphic Ancient South Arabian, Ethiopic, Modern South Arabian, and numerous other dead and modern languages. Linguists still differ as to the best classification of Semitic language sub-groups (Geoffrey *et al*., 2011; Sabri, Huneety, Mashaqba, & Zuraiq, 2020).

The Semitic languages changed a great deal between Proto-Semitic and the emergence of the Central Semitic languages, particularly in grammar. Innovations of the Central Semitic languages—all maintained in Arabic—include:

- The conversion of the suffix-conjugated stative formation (jalas-) into a past tense.
- The conversion of the prefix-conjugated preterite-tense formation (yajlis-) into a present tense.
- The elimination of other prefix-conjugated mood/aspect forms (e.g., a present tense formed by doubling the middle root, a perfect formed by infixing a /t/ after the first root consonant, probably a jussive formed by a stress shift) in favor of new moods formed by endings attached to the prefix-conjugation forms (e.g., -u for indicative, -a for subjunctive, no ending for jussive, -an or –anna for energetic).
- The development of an internal passive.
- There are several features which Classical Arabic, the modern Arabic varieties, as well as the Safaitic and Hismaic inscriptions share which are unattested in any other Central Semitic language variety, including the Dadanitic and Taymanitic languages of the northern Hejaz.

In linguistic terms, the Arabic language in comparison with Indo-European, “economizes” language means in the morphological categorization, e.g., to express the active participle, a singular masculine noun, plural passive participle, only vowel alterations are used as it is shown in the examples above. This manner of language categorization of the Arabic verb assists in saving the etymological foundations of the Arabic words that is why “the Arabs are able to understand what was written in Arabic many centuries before Muhammad” (). This is explained by the fact that the Arabic root is not compounded by the affix; the latter is understood as any word which became an affix during its development (Kubryakova, 1981) or originally notional word which became first a form word and then an affix (Serebrennikov, 1963). In the Arabic language, only a few phonemes can be added to the root; they are collected in the combination سَأَلْتُمُونِيهَا “saāʾltumūniīhā” “lit. you asked me her” (Girgas, 1873). Consequently, due to the above-mentioned reasons, extraction of the root in Arabic is not harrowing. To do this, the following rules were devised in Arabic grammar:

1) Stable linearity of consonants in the Arabic root serves as the pivotal element with which the central lexical meaning of the root is associated. This linearity is repeated in all the same-rooted words, which helps to protect the etymological stems of the Arabic words from loss. However, the inflectional system of the Arabic language intensified this linearity by the impossibility of attaching affixes to the root, leaving only phonemes which are free from lexical meanings. That is why for centuries, the roots of the Arabic words have been reflecting the same lexical meaning, which is affected by the sequence of consonants in all the same-rooted words. Thus, the lexical meaning “true love, to love truly” is connected with the linearity of the root consonants (ʿšq): ʿišq “true love” – the masculine, singular noun,ʿašiqa “to love truly, to adore” – the indefinite form of the Active verb,ʿušiqa “to be truly loved”– the indefinite form of the passive verb,ʿāšiq “truly loving, adoring» – the noun and the masculine, singular, active participle, ʿašiqā “loved, adored” – the past active form of the masculine dual, ʿušiqā “were truly loved” – the past passive form of the masculine dual, ʿašiqatā “truly loved, adored” – the past active form of the masculine dual,ʿušiqatā “were truly loved” – the past passive form of the masculine dual (Al-Foadi, & Mingazova, 2018). Irreplaceable linearity of the consonant structure of the Arabic root, which retains the structure of its elements (“original sounds”), 7 is the guarantee of stability of the lexical meaning and etymological base. It is not broken in the morphological categorization of the root, which helps to retain etymological bases not only of the Arabic words but also of other

Semitic languages. The linearity of the Semitic root does not only allow to clearly establish the general idea of the root but also to retain etymological bases, which makes it the specific peculiarity of the Semitic roots (Sabri *et al*., 2020).

2) Prosodic morphological categorization and the acoustic unity of the word, sustained by the Arabic morphological models, mean that the vowel of each consonant in a word corresponds to the same vowel in the models as the result of which all the vowels in each syllable of the corresponding word should completely correspond to the set of vowels in the model. So it is enough to know only the main root elements, being the consonants, with which the general idea is associated, e.g. (drs) (ktb), and after that, with the help of the models, all types of root categorization may be formed. Thus, "faʿala" is the model for the indefinite form of the masculine, singular, past tense verb, which corresponds to all three-consonant Arabic verbs in the same form, retaining the morphological meaning and phonetic unity of the word: kataba "to write, wrote", ḥamala "carry, carried" ʿamala "to work, worked", ḫalaqa "to create, created", ʿalama "to know, knew", ḥarasa "to guard, guarded", etc.

All three-consonant Arabic verbs change according to models, e.g., to obtain the masculine, singular, active participle, the form "fāʿil" is used. The phonetic structure of the given form is supposed to coincide with all the words of the same morphological type, i.e. the vowels in the word syllables are supposed to correspond to the vowels of this form. Cf. fāʿil – kātib "a writer, writing", ḥāmil "carry, carrying, a carrier", ʿāmil "a worker, working", ḫāliq "a creator, creating", ʿālim "a scientist, a knowing person", ḥāris "a guard, guarding", etc.

So, the morphological categorization is defined by the models which reveal not only gender, number, case, but also the semantic changes of the root. The markers, defined by the phonetic structure of the irreplaceable root elements, indicate gender, number, and the case for the syntactic categorization (Al-Foadi, & Mingazova, 2018). The first peculiarity of the Arabic root with the help of which the Arabs are able to understand the texts, written many years ago, is the three-consonant basis of the root, which carries the lexical meaning and is not susceptible to positional changes. Determination of the language category of a word is accomplished by means of comparison of the vowels of the given the word with the vowels of the corresponding model. The three-consonant base of the word such as ḫlq (with the general idea of creation or designing) or ktb (with the general idea of writing) does not change that is why it is easy to determine the general idea of the root irrespective of its categorization. The phonetic structure of the word after the process of inflectional categorization is supposed to coincide with the sound form of the model. It corresponds to as soon as these changes have different grammatical meanings. Thus, the lexical meaning of the Arabic root is established thanks to the unchangeable three-consonant root while the grammatical meaning – thanks to the concord between the vowels of the word and the "model". Each model conveys the grammatical meaning expressed by vowels, so if the verb is formed according to the model "fuʿila", it is clear that the masculine, singular, passive form should be qu.tiʿa – "was cut off" if we know that the consonants q.tʿ express the idea of cutting. If the verb is formed in accordance with the model "faʿalā", it is clear that it is the masculine, dual, past tense form like the verb katabā "two of them wrote".

So the root in the Arabic language poses as the raw language material used for prosodic inflectional transformations of the root components according to models that convey different language meanings. However, the root does not change in all manipulations since it retains the stable three-consonant base, having its own lexical meaning and the whole-valuable word status.

Prosodic morphological models that are supposed to correlate with a specific derivational model are marked morphologically at the same time retaining the stable linearity of the Arabic root consonant structure, which is seen as the perfect opportunity of observing the root without additional morphemes or phonemes. This phenomenon allowed the linguists to single out the inflectional changes in the root, the fact which became the platform of extracting affixes in Indo-European languages. Investigations conducted by the Arabic scholars in the field of the three-consonant root extraction and its studying, centered on understanding the meanings of the inflectional root vowels, had a great influence on the European scholars of the XVIIIth and XIXth centuries. So linearity of the consonant structure of the Arabic root and its prosodic models are interrelated, which allows extracting all the images of

language categorization when the root is clearly observed.

If the linear consonant structure (ftḥ) is connected with the general idea of "opening," which is categorized in the grammatical, lexical, and semantic models, the general meaning is retained throughout root inflectional categorization. The given linear consonant combination corresponds to the model faʿala, which expresses the grammatical meaning of the masculine, singular, past tense verb of the same kind as fataḥa "to open". The model fāʿil should be the corresponding model of all masculine, singular, active participles of the same kind as fātiḥ "opening". It can have another morphological categorization – according to the model fuʿila, which is supposed to be the corresponding model of all the verbs of the Arabic language with the lexical, grammatical meaning of the passive voice, masculine gender, singular number, e.g., futiḥa "was opened". The model faʿāl corresponds to the Arabic verbs which have the lexical, grammatical meaning "the one who does a lot" of the same kind as fatāḥ "opening a lot". Further, come the other morphological models which correspond to the given linearity of consonants to express different meanings.

Thus, the peculiarity of the Arabic root, compared with the Indo-European languages, was the fact that it can be easily extracted and categorized according to the models whose vowel phonemes are supposed to correspond to the phonemes on the corresponding positions of the given the word. It excludes the possibility of the root compounding by the affixes, as the result of which the basic meaning of the root is retained with the help of the linearity of its consonant structure. Linguistic meanings of the root are conveyed by the full correspondence between the word and the models established as a standard, which helps check the correctness of meaning and structure of the Arabic words. The Indo-European root of the nouns is accompanied by other morphemes that compound it. (Serebrennikov, 1963). That is why the status of Indo-European inflections is appreciated in the Arabic language, gand the possibility of the clear root extraction in the Arabic language caused the extraction of inflections and affixes in the Indo-European languages.

RESULTS AND DISCUSSION

The extraction of the phonemic root structure depends on the nature of the root and its significant elements' order. The root consists of the "original elements" (Ibn Jinni, 1950), i.e., consonants, determining the material, lexical word meaning. It is the very form which defines declension and conjugation (Potebnya, 1985). The root can be defined as the combination of consonants determining the material, but not the grammatical word meaning as well as "an indivisible constituent of the morphological division in the synchronization without reference to a word form, divided into separate meaningful elements" (Sabri *et al*., 2020). It is necessary to determine root consonants and the order law they follow. In case they properly convey material, lexical meaning, their systematization process ought to be detailed and unquestionable.

Significantly, the first two root consonants possess their crucial meaning. It was noted by the Arabists as well. They are determined by a particular general semantic feature containing onomatopoeic nature. This theory was first introduced by famous Arab grammarian Al-Foadi, & Mingazova, who compiled his "Al-Ain" dictionary on the sound-physiological principle. Later on his disciple Sibaweih developed the theory in his famous work "Al-Kitāb", but it became most developed by Ibn Jinni (Ibn Jinni, 2011; Al-Foadi, & Mingazova, 2018).

The onomatopoeic theory developed in the Arabic linguistics has a very coherent manner, and it states that the verb meaning, expressed by the Arabic sounds, is the imitation of the physiological movements of the human speech organs. The root elements' order is important because the acoustic vibration of each consonant element is the separate audible physiological code for distinguishing the meaning. Here are some examples: (1) sounds /qṭ/ mean "to cut, give a new form", and the third consonant specifies their meaning – qaṭʿa "to cut completely", qaṭafa "to pick up, gather flowers, fruit – to cut a part of smth.", qaṭama "to bite with teeth", qaṭaša "to cut a slice". It should be noted that this combination of sounds has the same onomatopoeic lexical meaning in all the Arabic words, the roots of which it included. The frequency of such phenomenon can be easily traced in Khalil al-Farakhidi's "Al-ʿAin" dictionary; (2) sounds /fr/ mean "separation that repeats", and the third consonant specifies the meaning – farada "to separate one by one, to mark cuts on a tree", faraza "to sort", faraqa "to split up"; (3) sounds /ʿṣ/ mean "pressing movement", and the third consonant specifies the meaning – ʿaṣara "to press", ʿaṣaba "to put a bandage on the wound, one's head", ʿaşafa "to blow strongly, to carry someone or something away under intense pressure". There is no doubt that classical dogmas of the Arabic linguists

on the significance of the Arabic root consonants' order were thoroughly analyzed by Serebrennikov, but we are to prove that a certain quantity of separate root elements is significant because the root consonant sound-element preserves its meaning whatever order it has. As it is seen, the sound /q/ of the verb qaṭʿa "to cut completely" means the process of cutting as the first of its three physical acts. It can also mean the process of cutting as its third act, being the third root element: (1) the verb faraqa "to separate", where the sound /q/ means the process of cutting as its third act (separating) after the first two acts – separating, expressed by the sound /f/ and the repetition of this separating process, expressed by the sound /r/. In this case, the sound /f/ means separating, for it is impossible to separate without dividing something whole into parts, then such separation repeats and the repetition is expressed by the sound /r/, and after repeating separation, the connection between the elements of the whole is cut and broken. Being the second root element, the sound /q/ expresses the cutting action that takes place after the first act before the final act, for example, faqara "to paragraph", and the sound /f/ means to divide the first and the second paragraphs, but the sound /q/, meaning cutting in this case, points at the lack of the links between the paragraphs. The sound /r/ means repetition because it is necessary to repeat the separation of the paragraphs from each other in order to compile a text. So, the verb faqara "to paragraph", means three acts of one process (to separate, cut, and repeat the previous actions), for it is impossible to compile a full text without dividing it into paragraphs according to a certain principle, and it is impossible not to cut the link between them in order to simplify its understanding while reading. It is important to repeat the paragraph division and cut its linking in order to make the text full and understandable. So, each of the three sounds means one concrete physical act of one process – paragraphing (/f / "separate", /q/ "cut", /r/ "repeat"). So, the process acts are expressed on the bases of the speech sound imitation to the physiological actions made by the human speech organs. Here are some examples where the sound /f/ means separation, and the sound /r/ means repetition: (1) farada "to separate one by one, to mark cuts on a tree"; (2) faraza "to sort". It can be noted that the sound /f/ means separating, and the sound /r/ means repetition, for separating one by one and sorting demand the coherent separation to make elements and then sort them out.

The root faqara, apart from the meaning "to paragraph" means "vertebra". It is obvious that the vertebrae are separated from each other, i.e., there is no direct bone link between them. The bone part of each one is separated from the other to make the human spine flexible in order not to break after the first movement. This separated and the cut link between vertebrae, peculiar to the whole spine, repeats in each vertebra to make the human body flexible. So, the root /fqr/ in the meaning "a spine" clearly illustrates separating, cutting, and the previous actions' repeating processes. Accordingly, the text paragraphs are divided, which states the obvious onomatopoeia where the actions expressed by these sounds are similar to the physical actions of the speech organs. It should be stated that all the Arabic words containing these combinations of sounds reflect the same onomatopoeic and lexical meanings for each element.

The ability of a separate consonant to preserve its onomatopoeic meaning whatever the root element order it has and the ability of these root consonant elements to specify each other point to the second peculiarity of the Arabic root – meaningful phoneme. The developed Arabic onomatopoeic theory, stating the ability of the separate root elements – consonant phonemes – to have their own meaning, is proved while comparing these meanings with physiological movements of the speech apparatus (Al-Foadi, & Mingazova, 2018) because a consonant does not lose its physiological imitation whatever position it has in the three-consonant root.

The phonemic structure of the Arabic root still impresses the linguists for its third peculiarity – transposition of the elements. Ibn Jinni thoroughly analyzed the onomatopoeic theory in the Arabic language and suggested the consonant transposition theory when the Arabic root preserves its general meaning whatever the position of the consonants:

(1) /ʿşr/ with the general meaning "to press" – ʿaşara "to press, push", şaraʿa "to compress", raʿaşa "to tremble with the compressive pain as epileptic";

(2) /qṭr/ – separated repeated action: (1) qaṭara "to drop" – the drops are separated from the liquid. These actions are repeated consistently, forming the dropping process. Thus, this process has three acts: q- to cut, ṭ- to form, r- to repeat; (2) raqaṭa "to make spotted" – such process demands the consistent making the spots for "spotting" means having spots; and each spot in its turn has its own form, distinct from others. So, r- repetition, q- cutting, и ṭ- forming; (3) ṭaraqa "to

knock": a knock – is a series of repeated sounds separated from each other. Thus, ṭaraqa: ṭ- forming a sound and its duration, r- repeating a sound, q- the separation between these sounds.

Vowels cannot be an unchangeable part of the root but serve as changeable consonant modifiers as long as they frequently change as a result of vowel change. The material, lexical meaning of the root is stable and cannot be expressed by changeable vowel elements because: (1) while pronouncing the vowel sounds, the air is passing from the speech apparatus without any obstacles, and acoustic impressions are made by the muscle movements that make acoustic vibration (Watorek *et al*., 2020), appearing as a result of facing the obstacles; (2) the roots with different meanings can consist of the same vowels – darasa "to learn", kataba "to write", samaḥa "to allow"; ṭālib "a student", ḥāmil "a carrier", kātib "a writer",ʿāmil "a worker", ḥāris "a guard",ʿālim "a scientist", ḫāliq "a creator", that is why the material, lexical meaning of the Arabic root is not connected with vowels.

According to Ibn Jinni, the role of the vowels in the syllable lies in the fact that it is a short vowel sound vibrating the consonants. Due to it, the vibration connects the consonant sound and the vowel as its part. In the case of lengthening, a vowel becomes a full vowel sound. It can be seen on the example of vowel fatkha in the word ʿamar that became a long vowel ā in the wordʿāmar; the same change has the short vowels damma and kasra.

Vowels and consonants in the syllable are pronounced simultaneously for if /m/ is pronounced without a vowel, the sound passes through the nose, but if it is pronounced with a vowel, it passes through the mouth (Ibn Jinni, 2011). The opinion of medieval Arab grammarians on the unity of a vowel-consonant syllable was proved by European scholars as well. V. von Humboldt considered that "in fact, a consonant and a vowel are mutually supportive and are heard as inseparable…" (Humboldt, 1984). This statement proves the sound integrity of the word for a vowel-consonant syllable is accepted as indivisible integrity, and vowel strength of each word syllable depends on a stressed syllable that forms an integral sound material (mutual sound integrity) the elements of which are linked and dependent on each other, and modify root consonants. The consonants that form the lexical meaning of the root are inseparable from the vowels, and this integrity presents a certain sound material, the consonant elements of which are connected with the help of vowels in a phonetic harmony. Depending on a stressed syllable, dividing vowel strength into syllables on the intonation principle and forming the sound integrity of a word, the general sound weight, called as a "phonetic bell" by the Arabs, is formed (Al-Kālidi, & Al-Tā'I, 2014). According to this bell, the classical Arab grammarians determined the morphological patterns that help to differentiate grammatical markers of the Arabic words: (1) the pattern of the past tense verb, masculine, singular (faʿala): samaʿa "heard", qaraba "brought", faraza "sorted out", etc.; (2) the pattern of the past tense verb, masculine, dual (faʿalā): samaʿā "(they both) heard", qarabā "(they both) brought", farazā "(they both) sorted", etc.; (3) the pattern of the masculine, plural noun (fuʿūl): jild "leather" → julūd "plural", ḥarf "a letter" → ḥurūf "letters", ḥarb "a war" → ḥurūb "wars", dars "a lesson" → durūs "lessons", etc.; (4) the balance of a noun and present participle masculine, singular (fāʿil): kataba "to write» → kātib "a writer, writing", šaraba "to drink" → šārib "drinking", etc.

So, root consonants serve as the stable semantic code that helps to determine the lexical meaning of a word, and the "phonetic bell" balance helps to divide the words into phonetic, morphological, lexical, and semantic categories.

The root of only two of three Arabic parts of Speech can be morphologically modified. The third part of Speech – particle – is not modified. This principle is supported by morphological patterns as measures set by the Arab scientists for defining structural word modifications. It is the best criterion for language specification, the so-called "weight" in the classical works by the Arab scholars (Ali, B, 2009). These patterns reflect phonetic variations in the root due to the vowel alternation. Short vowels in Arabic are not in the form of letters, but special subscript and superscript characters that contribute to the stability of the Arabic consonant root in the integrity with its vowel alterations. It should be explained by the fact that "in reality, a consonant and a vowel are mutually supportive and heard as inseparable. In order to mark this natural link in writing, it would be better to mark vowels as consonant modifications, as it takes place in many Asiatic alphabets, but not as separate letters" (Humboldt, 1984). Patterns reflect phonetic variations of each syllable, particularly, and of a whole word, in general, (as phonetic integrity). Thus, the pattern (fuʿila) represents phonetic integrity that serves to form the passive transitive verb, masculine, singular like samaʿa "to hear" → sumiʿa "was heard", qaraba "to bring" → quriba "was brought", faraza "to sort out" →

furiza “was sorted out”. The phonetic composition of the first syllable /sa/ in the word samaʿa “to hear” differs from the phonetic composition of the same syllable /su/ in the word sumiʿa “was heard”. So, we can notice the vowel alteration in the first syllable with qualitatively unchanged consonant /s/ that takes place according to the patterns reflecting above-mentioned lexical and grammatical changes.

As it is seen, the phonetic structure of consonants undergoes quantitative change under the influence of the root vowel alteration because “consonants have to be followed by the airflow that forms different consonants depending on its place of formation and way out” (Watorek *et al*., 2020). In its turn, the vowels of a three-consonant root change from pattern to the pattern: qaṭara “to drop” → qāṭir “someone who drops”, faraza “to sort out” fāriz → “sorting out, a sorter”, and such word phonetic changes could be considered as phonetic, morphological, semantic and lexical markers. This marker is in accordance with patterns, as bases of the Arabic word-formation, contain all the combinations of the above-mentioned elements. The changes in the word phonetics are due to a syllable vowel depending on a stressed syllable vowel, and their integrity, in its turn, influences a three-consonant root sounding they vocalize. In this respect, any root vowel alteration leads to the change of all the root sound structures due to the interconnection of its elements. So, each pattern reflects all the changes for each case of word-formation and it clarifies the vowel structure of a word in a pattern. The pattern (faʿala) as an infinitive form of a verb alternates with the pattern (fāʿil) for a noun and a singular masculine present participle formation, for example, faraza “to sort out” → fāriz “sorting out, a sorter”, kataba “to write” → kātib “a writer”, šaraba “to drink” → šārib “drinking”. Accordingly, the broken plural is formed: (fuʿūl): jild “leather” → julūd “plural”, ḥarf “a letter” → ḥurūf “letters”, ḥarb “a war” → ḥurūb “wars”, dars “a lesson” → durūs “lessons”, etc.

The first root consonant is central for it shows the first process act and the more vowel power it has, the more intensive its action becomes. The sound /f/, in the meaning of separating, is intensified with a vowel strength: faraza “to sort out” → fāriz “sorting, a sorter”, that characterizes the peculiarity of the action. In its turn, the vowel change influences the nature of the action, for example furiza “was sorted out”. So, we cannot but take into consideration the integrity of morphological, lexical and semantic changes of a three-consonant root while studying a vowel alteration in the Arabic language.

Morphological categorization of the Arabic root is the so-called “the Arabic law of the language self-protection” (قانون الحماية الذاتية اللغوية), and is characterized with the following:

(1) the inability to add extra consonants to the root for preserving onomatopoeia and consonant order bearing the lexical meaning. In this respect, the word order structure of the Arabic language is considered to be the derivative base-productive word relations (Watorek *et al*., 2020), because of the absence of extra consonants. It differs from the structures of the other languages with its system of patterns formed according to the base root /fʿl/, and being the standard for morphological word-formation in Arabic. Moreover, it is impossible to add consonants into the root because of the rhythm of Classical Arabic preserved by the patterns. This feature helps the Arabic native speakers define parts of Speech, word meaning, and the mistakes of the others intuitively. So, any Arabic word has to correspond to a certain word-forming pattern that makes the addition of extra consonants to the root impossible.

Extracting a sound or a morpheme as a word-forming element is impossible for all the root elements to undergo phonetic, morphological changes. The phonetic structure of syllables change as a result of vowel alteration, and the vowels are inextricably linked with consonants. So, all phonetic word integrity is analyzed as the element bearing lexical and morphological meaning. Such alterations in word phonetics are a wonderful feature, and whole word classes change according to certain patterns, and it makes the extraction of separate elements impossible. As it was mentioned above, a three-consonant root can add only phonemes as in the phrase سَأَلْتُمُونِيهَا "saāʾltumūniīhā" (you asked me about her) that are not affixes. At first, suffixes and prefixes were meaningful words (Abdel-Hady, & Branigan, 2020) and an affix is a word changed into an affix at a certain period of its development (Kubryakova, 1981). The Arabic phonemes in the phrase "saāʾltumūniīhā" were never meaningful words, but phonemes bearing only grammatical meanings. Such functioning phonemes of the other languages are called asemantic (Al-Foadi, & Mingazova, 2018). These phonemes can be used in different patterns and functions, for example, in the following patterns: fāʿilat “t” is feminine noun and singular present participle: kātib “a writing man” → kātibat “a writing woman”, šārib “a drinking man” →

šāribat “a drinking woman”, etc.; tafāʿalā, “t” a marker of reciprocal action takātabā “to write to each other”, taʿāšaqā “to fall in love with each other”, taḫāṣamā “to turn on each other”, etc. So, phonemes are not affixes, they have never been words, they convey grammatical meanings without breaking semantic integrity of a word;

(2) The onomatopoeic system of the Arabic consonants and their root order preserve in the morphological categorization that provides the semantic integrity of the Arabic root for elements, reflecting the general idea of a root, are regularly repeated in words of the same root, and quantitative changes of the phonetic structure of a word are possible. The root consonant order is not broken by the addition of grammatical elements. It helps to preserve the semantic integrity of the Arabic word. And the Arabic native speakers can easily read and understand the ancient texts. “The meanings of derivatives and derived words are connected, for close sounding actions are similar to a heard voice”. The elements of root sounding internally specify each other, and it reminds of the inter-structural semantic connection of word components;

(3) the system of the Arabic word-formation preserves the morphological integrity of a word because the marker of the phonetic changes does not disappear for its being phonetic integrity of a word corresponding to a certain pattern. Such words as dars “a lesson” → durūs “lessons”, kātib “a writer” → kutāb “writers”, do not add the additional morphs and their morphological markers are preserved;

(4) the marking integrity is preserved due to the morphological marker – sound integrity marks the lexical meaning as well. The phonetic changes of a word include both functions – lexical and morphological, and singling out an element as a marker of a function is impossible;

(5) there is a progressive flectional integration principle of language levels. The onomatopoeic system of a three-consonant root, bearing a lexical meaning, undergoes word-formation phonetic changes following the pattern system; then, the syntactic categorization follows, and it depends on the morphological changes of a word, and it is conveyed by a flexion. The morphological markers determine the syntax got as a result of root elements’ progressive development – in a flectional way. We call this system as phono grammar; it reflects the peculiarities of Arabic that contribute to preserving its traditional structure: (ktb – the root with the general idea of writing) → kataba “to write” → kātib “a writer” → kutāb “writers” → ʿn kutābi “about writers”.

So, Arabic has a system developed and recorded in the early Middle Age that still contributes to preserving the peculiarities of Arabic to the present day.

CONCLUSIONS

So, it is stated that the Arabic language “economizes” on the language means and is mostly categorized by vowel alteration, causing the quantitative change of the consonants. The irreplaceable linearity of the consonant structure of the Arabic root is the guarantee of stability of the lexical meaning and etymological base. The three-consonant basis is the main peculiarity of the Arabic root. Its lexical meaning is established thanks to the unchangeable three-consonant root while its grammatical meaning – thanks to the concord between the vowels of the word and the “model”. The models defining the morphological categorization reveal not only gender, number, case, but also the semantic changes of the root. The vowel of each consonant in a word corresponds to the same vowel in the models.

Thus, the root does not change in all manipulations since it retains the stable three-consonant base, having its own lexical meaning and the whole-valuable word status. The linearity of the consonant structure of the Arabic root and its prosodic models are interrelated, which allows extracting all the images of language categorization when the root is clearly observed.

The phonemic structure of the Arabic root shows that the root consonants serve as the stable semantic code, determining the lexical meaning of a word, and the “phonetic bell” balance, dividing the words into phonetic, morphological, lexical, and semantic categories. As for the morphological categorization of the Arabic root, the so-called “Arabic law of the language self-protection”, has its specific characteristics, allowing for extra consonants to the root for preserving onomatopoeia and consonant order and providing the integrity of the Arabic root.

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