

The Arabic letter between graphic drawing, phonetic and lexical features

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Abstract:

Although writing is a means of communication and expression of ideas, the Arabic script has transcended this and achieved the exception of being an aesthetic calligraphic art. This is due to its core, the Arabic letter, which is characterised by many unique features such as pliability, ascents and curves, horizontal extension, conciseness, and the Sufi and poetic expressiveness of the Arabic letter. For example, many consider the letter Meem to symbolise constriction or the mouth of the beloved, the letter Seen to symbolise beautiful teeth, the letter Dal to symbolise the stature of a sorrowful lover... and many other connotations and characteristics.

However, we will focus on an interesting and more scientifically rigorous issue: the relationship between the graphic representation of the Arabic letter and the way it is articulated from its point of origin, and its lexical semantics. This is an exceptional feature of the Arabic script and letter that supports the theory of the codified nature of the Arabic script. To illustrate this, let us take the example of the letter Ghain, which, on closer examination, we find that it is articulated by a strong constriction between the back of the tongue and the palate as the tongue rises towards the latter, creating a resonance chamber in the throat which causes the sound of Ghain to reverberate there. This movement of air and moisture in the throat and palate... The derivation of the glyph of Ghain and then its dotting to express this sensory effect of the sound was not arbitrary; hence Ghain is dotted because of the moisture, viscosity, vibration and boiling it contains. The propulsive movement of the air in this sound also tends to circulate rotatively in its place, rather than inclining towards the exit, and so we can read the protrusion in the graphic form of Ghain as a symbol of the elevation of the tongue and the creation of a resonance chamber or circular void in which the air rotates, resembling the shape of the head of Ghain. Add to this the semantic

connotation of the Ghain sound with water, moisture, concealment and ambiguity, and the lexical models are abundant.

So, in this paper, we will try to clarify these relationships; between the representation of the Arabic letters and their articulation, and their semantics, and the rationale behind their calligraphic representation. Of course, we have chosen a set of letters distributed over the main articulatory points: the throat, the tongue and the lips, represented by the letters Haa, Ghain, Saad and Baa.

Keywords: Letter, sound, semantics, script, phonetic features.

Introduction

The terms script(ALKHAT الخط), calligraphy(ATTahrirالتحرير), (ARRAKAM الرَّقْم), coding(ASHAFR الشفر), notation(AZZBR الزبر), drawing(ARRASMالرسم) and writing(ALKHATT الخط) are all synonymous with writing(الكتابة) That has multiple meanings and vary in different fields. In literature it refers to the “craft of composition”, while in law/ jurisprudence it refers to a contract between a master and his slave concerning a sum of money that the slave pays in instalments to gain his freedom. The common usage of writing refers to the manual work of depicting and engraving letters (Al-makki, 1939).

There is a common thread linking these concepts, as they are all based on the act of writing. Composition is the practice of writing, a contract is documented in writing, and so on. The last concept is the specific terminological one that concerns us in this context. It refers to the concept of script or calligraphy, as defined by Ibn al-Hajib: “Writing is the representation of language through its letters of writing”. (Al-Istrabathi, 1982) Al-Suyuti also saw writing as “specific engravings that signify speech, just as the tongue signifies what is in the mind, which in turn signifies what is in the external world” (A-Soyouti). This suggests that the graphic aspect (engravings) represents the phonetic/oral aspect (the tongue).

Mohammad bin al-Tahir al-Makki adds an aesthetic dimension to the previous concepts, arguing that they lack this aspect. He states: “What we mean by writing is the writing of the individual or combined Arabic letters in a framework of beauty and elegance, according to the principles and rules of this beautiful art... Scripture is a skill that regulates the movement of the fingers with the pen, based on specific rules”. (Al-makki, 1939)

If this is the case, then writing is a graphic translation of language and its sounds, which are originally oral in nature, for many purposes, the simplest of which is communication. The Arabic script, however, goes beyond this to aesthetic purposes in which it becomes an end in itself. For this reason, many specialists consider it to be an art, a design and a decoration. The main characteristics of this script are: (A-SSaid)

1. It is a pure, authentic Arabic decorative art.
2. Its sacredness is due to its association with the text of the Qur'an, the writing and calligraphy of the Qur'an, and this is the main reason for the interest of Muslims in perfecting it, "Therefore, we find that the Arabic script has occupied a large place in the structure of Islamic thought and has taken the forefront among the Arabic-Islamic arts due to its association with the religious creed and the Muslim artist's adoption of it as a form of worship and submission to God, in addition to the semantic characteristics of the Arabic letter beyond its purely documentary (documentary) mission" (A-SSaid).
3. The Arabic script is an intellectual system that goes beyond mere symbols.
4. The Arabic script has a peculiar character, which it derives mainly from the nature of the Arabic letter, which manifests itself in its pliability, flexibility, curvature, straightness, smoothness, and conciseness, as well as its vertical elevations and curvatures, and its horizontal extension, which allow it to be easily formed into various forms, whether the letter is a single one, a word, or a sentence.
5. The Arabic script is a continuous script that allows the interweaving of letters and words.
6. In addition, its expressiveness is an aesthetic and communicative feature that it possesses in a unique way.
7. The Sufi reading of the Arabic script "as a manifestation of the creed of monotheism in human creativity, for the sense of creativity transcends the decorative and partial aspects of artistic formation to form auras of imperceptible or embodied luminous perception" (A-SSaid).

Perhaps you see that all these characteristics are due to the nature of the core of this line, it is the flexible and malleable Arabic letter, and away from the conceptual multiplicity surrounding this term, as its issuance in the science of grammar differs from the science of readings and phonetics and recitation, we can define this unit from the graphic point of view in the science of calligraphy

as -i.e. the letter- is "a visual representation of the pronunciation of the letter of spelling" or it is "the drawn sign indicating the pronunciation of the spoken letter". Among the secrets of Arabic calligraphy is that it translated every sound of the Arabic language into a special script, so is there a relationship between the writing of the Arabic letter and how its sound occurs in the speech apparatus and its phonetic features? And does this relationship extend to the lexical meaning? This is what the intervention answers.

We start at the beginning to answer this problematic from the concept of script and writing, for we have seen that they are a visual representation or drawing of individual or compound letters, which are originally sounds, and Arabic calligraphy has drawn the sounds close in their places of articulation with similar letters, as "Al-Aqqad" says: "Take, for example, the letters Haa' and Khaa', or the letters Taa' and Dhaa', or the letters Daal and Dhaal... For the proximity between them in the system resembles the proximity between them in pronunciation as it resembles the proximity between them in shape" (Al-Akkad, 2013).

Salah al-Din al-Munajjid goes on to say that, according to some researchers, the vowel diacritics in Arabic letters are borrowed from Syriac, in which "dots are placed above the letter if it is a hard consonant, or below the letter if it is a soft one" (Al-Mundjid, 1979). This goes beyond the mere imitation of the spoken sound by the letter to its vocalisation, which reinforces one of its characteristics, as we will see in the course of the presentation.

We have therefore chosen a group of Arabic letters that represent sounds distributed over the articulation sites of the Arabic letters.

First, from the larynx:

The letter 'Ha':

Ancient and modern scholars differed in determining the place of articulation of the 'Ha' and its characteristics, starting with whether it is a consonant or a vowel, as it possesses qualities of both types.

Their opinions also varied on how it occurs and is pronounced. "The lack of fixation of this sound in one form, the lack of dependence on a specific place of articulation, and the lack of stability of the vocal cords in terms of vibration and non-vibration during its pronunciation" (Kaid, 2002). The most prominent feature we see that distinguishes the Hā', and which was the reason for this difference, is that it can be uttered as a sigh expressing sadness, fatigue or pain,

as it is an exhalation from the lungs. As “Mahmoud al-Saarn” says: “During its utterance, it may happen that the vocal chords remain motionless without movement, and this position may be accompanied by a kind of whispering heard at the back of the throat, and the articulatory organs in this case take a position similar to that of the soft sounds (A-ssaaran), because it (the sound of pure breath, which does not encounter any obstruction in the mouth, and the tongue can take any position in the pronunciation of the Hā’ that it takes in the pronunciation of the ‘vowels’), and therefore it is possible to pronounce different types of Hā’ as much as one can pronounce types of ‘vowels’ (Kaid, 2002).

The ‘ha’ sounds can be considered ‘whispered vowels’, i.e. vowels that are accompanied by a whisper rather than a full voice. However, most phoneticians have considered the haa’ to be a voiceless, glottal, fricative consonant. This is because when it is pronounced, the airflow in the mouth is obstructed. It is a voiceless sound because during its articulation the glottis is open, so the vocal cords do not vibrate or vibrate very little.

The “haa” is produced “by [a strong stimulus from the diaphragm and chest muscles for a large amount of air, and by the resistance of the glottis]”, but the occlusion is not complete, because it is done by the edges of the articulators, and the passage remains open. The airflow touches its edges (Ibn Sina) [referring to the vocal cords] evenly, without tilting to one side or the other.

This is described in more detail by Bassam Baraka, who states: “When the Haa’ is pronounced, the glottis is almost completely closed, except for a small opening in the posterior part at the level of the arytenoid tissues, and the airflow flowing through this narrow opening produces an audible and distinct friction, and the vocal cords do not vibrate during the pronunciation of the Haa’, and the position of the mouth opening is like that of the pronunciation of the vowel /a/ (the open)” (Baraka). It is observed that the Haa’ “is an easily produced sound in which the articulatory apparatus is open and the tongue has no work, as it is in the bottom of the mouth” (Saadani, 2013). Examine the figure illustrating the position of the tongue, the flow of air and the position of the vocal chords and compare it with the way the letter ‘Ha’ is written.

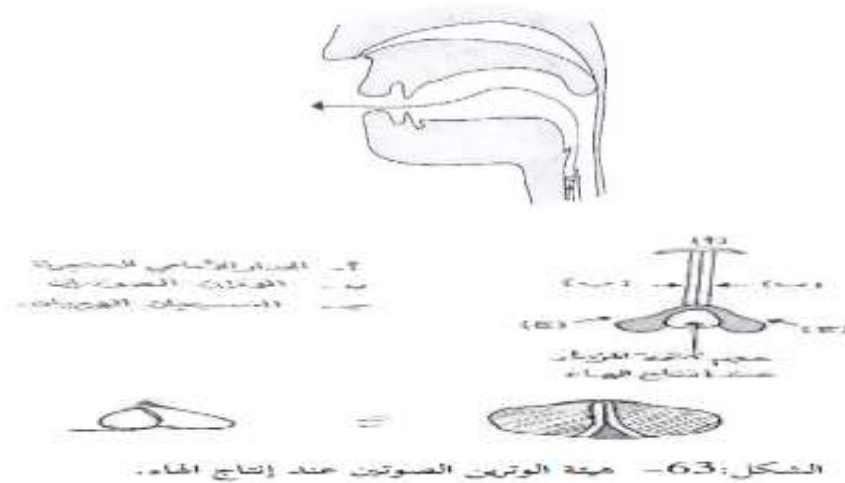


Figure 1 shows how the letter ‘Ha’ appears.

Source: Hanaa Saadani (2012), Arabic Letters: A study of their development and the relationship between sound, script and meaning, Ph.D. thesis, supervisor: Ahmad Jalālīlī, Qāṣidī Merbāḥ University, Academic Year 2012/2013, p.199.

Hanaa Saadani states: “If the Arabs had known the images of the larynx produced by the machine today during the articulation of this sound and the state of the vocal cords in it, we would have said that this script (هـ) directly represents this form of occurrence. But this script (هـ) also expresses in a way the continuity of the air in the system with this sound” (Saadani, 2013). But how does this relate to lexical semantics?

‘Hā’ is a soft, voiceless fricative sound with a lowering of the tongue during its occurrence, and the lexical entries beginning with this letter contain “weakness, tenderness, and frailty” (Abbas, 1998), such as hatt al-mā’ (heard a sound when pouring), haranfāt al-mar’ah (she cried and spoke weakly), hashhas (made a weak sound), and hanna (cried softly), and among them are those that indicate “despair, misery, or sadness or loss” (Abbas, 1998), and all these are weakness and tenderness, and it is enough that the ‘Hā’ is the sound of a sigh of sadness or mental anguish or emotional feeling, such as: (hab, huyam, hana, hawa, han, hal...etc.).

Second. From the throat

The letter Ghain

The ghain is a voiced, fricative, glottal sound. Ancient linguists and phoneticians considered it to be one of the glottal sounds coming from the lowest part of the throat, the area from just behind the epiglottis to just before the uvula. It is

characterised by a relatively wide opening compared to the upper and middle parts of the throat. Al-Farahidi (d. 170 AH) describes it as “glottal because its origin is in the pharynx” (Al-Farahidi, Assikkit, & Arrazi, 1982).

And Ibn Sina (d. 425 AH), when he described the (ghain), he compared its emission to the emission of the kha’, ha’ and ‘ain, except that the air “is not condensed by the moisture, but boils it, comes straight, and its force has weakened because it has moved a little away from the place of articulation, and the vibration in this moisture is more than what preceded it, and the splitting forward is less, and it occurs in the place of gargling, and if a person took water in his mouth and tried to bring it close to the throat and then pushed the air into it, he would hear the sound of the ghain, and if he brought it forward a little and the air could not rise straight to it but turned and he relied on it with a jerk, he would hear the ha’ then the kha’ then the ghain, except that the moisture in the ghain is more than in the kha’ (Ibn Sina).

If we look at the way in which the sound of the letter “ghain” is pronounced, we can see that it goes through the following stages:

“The air rushes out of the lungs, passes through the larynx, causing the vocal cords to move, then it takes its path through the throat to the lower part of the mouth.” (Abd Al-Djalil, 1998)

“The posterior part of the dorsum of the tongue rises and recedes sharply towards the soft palate (or roof of the mouth) at the level of the uvula, so that it almost sticks to it, and there is a narrow gap that allows the exhaled air to pass with difficulty.” (Baraka)

From this we deduce the most important characteristic of the letter ‘ghain’; it is a deep sound in the vocal apparatus, coming from the point of convergence of the farthest and deepest exit, and we do not need the lips to pronounce it. This characteristic, which is deepness, manifests itself in its connotations, which we will explore further.

Hanaa Saadani, quoting the words of ‘Afif Bahnasi, says: “If we trace the occurrence of the sound of the letter ‘ghayn’, we find that the constriction between the back of the tongue and the palate increases as the tongue rises towards the latter... this position creates a resonance chamber in the throat, and this is what causes the ‘ghayn’ to resonate there. And in the ‘ghayn’, as in the ‘ayn’, the moisture is not forced upwards, but as Ibn Sina describes: the

movement is more inclined towards the resting place of the moisture than to push it outwards... there is a boiling of air and moisture in the throat and the palate... and the derivation of the graphic representation of the ‘ayn’ and the ‘ha’ and then their orientation to express this sensory effect of the sound was not arbitrary, for the ‘ayn’ is like the ‘ghayn’ in terms of reverberation and constriction of the air before it exits, and the ‘kha’ is like the ‘ha’ in that it forces the air and moisture outwards and upwards, and therefore the ‘ghayn’ was pointed because of the moisture, viscosity, vibration and boiling within it. And since the ‘ghayn’ is one of the variants, its graphic representation was originally based on the ‘ayn’” (Saadani, 2013). She says in another part of her thesis: “And the movement of pushing the air in this sound also tends to make it rotate in a circle in its place, not inclined to exit outwards... so if the ‘kha’ (kh) is a driver of air and moisture, the ‘ghayn’ returns them to their point where they reverberate there” (Saadani, 2013). Thus, we can read the protrusion in the graphic form of the ‘ghayn’ as a symbol of the elevation of the tongue and the creation of a resonance chamber or circular space in which the air circulates in a circle, similar to the shape of the head of the ‘ghain’.



Figure 1 The graphic representation of the letter Ghain and its relationship to the form of its articulation in the vocal system.

Source: Hanaa Saadani (2012), *The Arabic Letters: A Study of Their Evolution and the Relationship between Sound, Writing and Meaning*, pp. 142-143

Linguists led by “Al-Khalil” believed that the name of this sound referred to “the camels coming to the water” (Al-Farahidi, Assikkit, & Arrazi, 1982). Here we can observe the emergence of the feature of moisture and hence the meaning of water. This statement is supported by the words of “Ahmad Zarka” about the letter Ghain when he says: “The Ghain is audible in boiling, clear in the gargling of water in the throat, and in the nasality of the infant between the exit of the

exhalation from the nose and its exit from the mouth” (Zarka). This proves the relationship between the ghain and water. From the point of view of onomatopoeia, (Zarka) tried to establish a link between some of the connotations of the linguistic elements (Ghann), (Ghain), (Ghani) and “the world of the child” (Zarka). Meanwhile, he documented the relationship between its other connotations and “concealment and submission to desire” (Zarka) in relation to the adult world, which is part of what “Al-Harali” meant in some linguistic items such as stupidity, anger and malice... However, according to Zaki Al-Arsouzi (d. 1986), the connotation of the ghain is limited to “ambiguity and unconsciousness”. He says: “The Arabic letter also has an explanatory value, and although this value is determined by the system of the phonetic word, some letters play the role of rhythmic accent in determining the explanation of the meaning of the word, and the first letter of the word usually fulfils this function... The letter ((Ghain)) expresses the meaning that is contained in almost all the words that begin with it, which is ambiguity and unconsciousness” (Al-Arsouzi).

This text examines various Arabic lexical items related to the concepts of water, darkness and concealment. For example, consider the following terms:

(Ghabba) al-ibl: “The camels drank one day and not the next” (Ibn Mandur). This emphasises the presence of water and the indication of its absence in the camel’s failure to drink on the second day.

(Ghabasu) al-layl: “His darkness from the beginning” (Ibn Mandur). And (ghabashu) al-layl: “Its darkness from the end” (Ibn Mandur). And (al-ghabash): “Intense darkness” (Ibn Mandur).

(Al-ghasaf): Darkness (Al-Fairuzabadi). And (ghadifa) al-layl: “It became dark and black” (Al-Fairuzabadi). Darkness is a concealment of things.

(Al-ghabq): “The evening drink (Al-Fairuzabadi). And (ghabina) al-shay’: “He forgot it, neglected it, and was ignorant of it” (Al-Fairuzabadi). Forgetfulness and ignorance of a thing is a concealment of that thing.

(Guttu) Fulān: “He was possessed” (Anis, Montassir, & Sawalihi Atia). And (ghummā): “He was obscured” (Anis, Montassir, & Sawalihi Atia). Madness is a veil over the intellect, and therefore a concealment of it.

(Ghatta) al-daḥka yaghuttuha ghattan: “He put his hand or garment over his mouth to hide it” (Anis, Montassir, & Sawalihi Atia). And (ghatala) al-makan: “There was much vegetation in it” (Anis, Montassir, & Sawalihi Atia). What is

like this, the concealment of things is possible in it, and the darkness is intense in it at night.

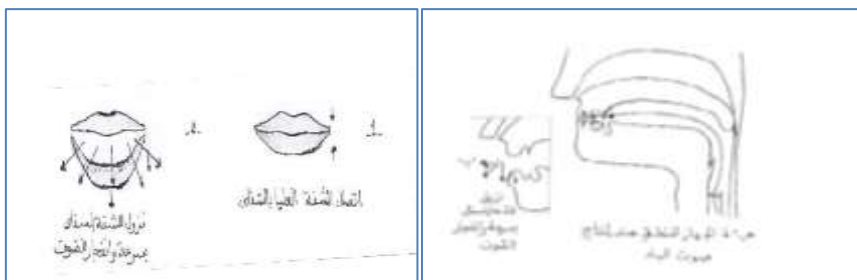
(Ighdawdana) al-nabtu: “When it turned green until it tended towards blackness due to its abundant watering... and a well-watered vegetation” (Anis, Montassir, & Sawalihi Atia). Note the presence of blackness and concealment due to the dense vegetation, as well as the presence of water.

Thirdly, from the tongue

The letter Sad

A sibilant sound described by “Ibn Sina” as follows: “And as for the Ṣād, it is produced by an incomplete occlusion, narrower than the occlusion of the Sīn and drier, and the occluding part of the tongue is longer, The occluding part of the tongue is longer, extending inwards towards the articulation of the sin and outwards until the tongue almost or completely occludes two-thirds of the flat surface under the palate and the gums, and the air escapes from this narrow passage after a large amount of it has been trapped behind it, and it comes out through the gaps between the teeth” (Ibn Sina). From this it is understood that the tongue rises towards the upper palate and becomes wider and longer, and it is concave in the middle, which contributes to the feature of occlusion, and because the tongue does not rise to the extent that it rises during the pronunciation of Ṭā’ and Za, the diacritic of hamza is not written on it, and because there is no moisture in it and no vibration, it is not pointed, as Ibn Sina says: “And there is no vibration of moisture and no vibration of the surface of the skin in the Sin or the Sad (Ibn Sina). So observe the representation of this:

The ancients and the moderns agreed on its orality, as it comes out between the two lips, after “the air first passes through the larynx, moving the vocal chords, then takes its course through the pharynx and then the mouth, until it is blocked at the complete meeting of the two lips, and when the lips separate, we hear this explosive sound” (Anis, Al-Aswat Al-lurawia, 1975). “Hanaa Saadani” describes the pronunciation of this sound as “the rise of the lower lip towards the upper lip, which exerts more effort to provide the closing process, while the upper lip, which is located in the fixed jaw, helps it by connecting to it with flexibility, as both are made of a soft, pliable material... at the beginning of the explosion and the separation of the two parts from each other, the air is released above the lower lip, which continues to descend” (Saadani, 2013). See the figure below:



Source: Saadani (2012), *The Arabic Letters: A Study in their Evolution and the Relationship between Sound, Script and Meaning*, previous reference, pp. 111-112.

Therefore, the graphic representation of the letter Bā’ represents the form of the appearance of this letter(ba). The horizontal line represents the lateral extension of the lower lip, and the placement of the dot under the letter was a representation of the lower explosion after a strong closure of the lips and pressure. This extension and the sonority of this sound is analogous to ‘eruption and appearance and flow... and bulging and digging and cutting and splitting and surprise and intensity’ (Saadani, 2013).

From appearance and eruption (bajass.balaj.bazagh .baghat.bassar .etc .) and from splitting, bulging and intensity: (bakar.badah.baash.baghat.ba’ar.etc .)

The conclusion

Beyond the pedagogical aspect of Arabic writing and its orthographic problems, the presentation has revealed an exceptional feature of Arabic calligraphy, which

is the representation of the physical articulation of the letter in the speech apparatus. There is a significant correlation between the two, in that the distribution of dots on these letters was an indicator of the physical and physiological characteristics of that sound. All of this is related to the core lexical semantics that we find associated with this sound, as you rarely find a lexical entry that contains or begins with this sound without finding this refined semantic thread that connects it to other lexical entries.

The results of this presentation include:

1- The representation of the letter ‘haa’ in the form (هـ) reflects the closure of the glottis at the level of the larynx, with only a small opening, while the speech apparatus is open and the tongue has no function at the bottom of the mouth, allowing the breath to flow. There is a lowering of the tongue during its occurrence, and the lexical entries that begin with this letter contain “weakness, delicacy, and frailty”, such as “hatt” the water (a sound was heard when it was poured), “harafanat” the woman (she cried and spoke weakly), “hashas” (made a weak sound), and “hanna” (cried a light cry). Some of them indicate “despair, misery, sadness or loss”, and all these are weakness and delicacy. It is enough that the letter ‘haa’ is the sound of sighing from sorrow or psychological pain or emotion, such as: (haaba, hiyaam, hana’a, hawaa, haan, haal, etc.).

2- The representation of the letter ‘ghayn’ in the well-known form (غ) reflects the way in which the ‘ghayn’ occurs from its point of articulation, as there is a strong constriction between the back of the tongue and the palate when the tongue rises, creating a resonance chamber in which the air circulates rotationally and does not tend to exit, which is reflected in the circular shape of the head of the ‘ghayn’. There is also a boiling of the air and moisture and their restriction in the throat and palate, represented by the point above the ‘ghayn’. The fact that it comes from the throat reinforces the connotation of depth and concealment, and the moisture it carries connotes water. The ‘ghaban’ is to undervalue your counterpart in a transaction between you and them through a form of concealment. The ‘ghadiq’ is the watering of the earth and plants and the abundance of tears. The ‘gharb’ is the setting of the sun and the star, and the departure from people, their withdrawal, and the descent to a place or a cave through a distance with weight or force. The ‘gharq’ is depth and a movement of disappearance from top to bottom.

3- The same applies to the letter ‘sad’ (ص). The elevation at the beginning of it reflects the feature of occlusion in it and the elevation of the tongue, and there is no elevation of the tongue because it is not connected to another articulator, nor is there a dot because there is no moisture in it. The occlusion in it explains the connotation of strength in the lexical entries beginning with this sound, such as ‘ṣabr’ (patience), ‘sarsma’ (firmness), ‘salad’ (hardness), ‘samad’ (eternal), etc.

4- The writing of the letter ‘ba’ (ب) with a horizontal line falling slightly downwards is an expression of the expansion of the lower lip from the sides, and the placement of the dot below the ‘ba’ represents the lower explosion after closing the lips and pressing. This expansion and the sonority of this sound have contributed to the formation of the connotation of force, appearance and cut, as in ‘bajis’ (gushed), ‘ba‘j’ (burst), ‘baqar’ (split), etc. In addition, it adds the aesthetic feature, as it is an ornament and design that places it among the most exquisite and beautiful of the Arab-Islamic arts that characterise our civilisational identity.

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