

Arabic Script and the rise of Arabic calligraphy

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Abstract

The aim of this paper is to present a concise coherent literature review of the Arabic Language script system as one of the oldest living Semitic languages in the world. The article discusses in depth firstly, Arabic script as a phonemic sound-based writing system of twenty eight, right to left cursive script where letterforms shaped by their positions in the word letterforms translating the rich variety of Arabic consonantal script. It also discusses vowels and the punctuation system. Secondly, the article discusses Prophet Mohammed's message of Islam and the revelation of the Holy Quran contribution to the development of Arabic scripts through Quran special diacritical marking system invention to facilitate its recitations by new Arabic non-native Muslims. The article then, examines the rise of calligraphy as the principal Islamic art. Arabic calligraphers strived to produce perfectly correct Quran manuscripts that were propitious for the honourable words of God. Because of their efforts, beautiful scripts types where invented to write masterpieces of the Holy Quran manuscripts survive in many of the world's museums.

Arabic Script and the rise of Arabic calligraphy

Introduction

Arabic is one of the oldest living languages in the world today spoken by more than 300 millions. It has a stable orthographic representations system and a unique system of the Holy Quran didactical marks.

The paper aims are twofold. The first part presents a concise background review of the language, letterforms consonants and vowels, diacritical marks, and the Holy Quran diacritical marks. The second part discusses the Arabic calligraphy and its major styles.

History of Arabic Scripts

The family tree of the world's alphabets published by Sacks (2003: xii) demonstrates that the foremost scripts of living languages come from the first Semitic language, in Egypt 2000 B.C. This begat the Phoenician alphabets in Lebanon around 1000 B.C., which acted as the platform for a great propagation. Two centuries later, the letterforms of the Phoenicians had been copied and modified to be used as Aramaic letters, which themselves acted as an ancestor for the rise of the Nabataen alphabets in the north of the Arabian Peninsula, centred between Petra in Jordan and Mada'n Salih in Saudi Arabia. In the fourth century A.D., Arabic scripts were adoptions of the Nabataen alphabets, altered by copying, deleting and inventing new alphabets to transliterate the new language: Arabic.

Four important inscription discoveries have provided evidence for the chronological transitions of Arabic scripts from the early scripts to the script used for the holy Quran in the seventh century. First was the discovery of a famous Arabic epitaph inscription written in the Nabataen alphabet in Namārah to the southwest of Damascus. In this lies the origin of the Arabic

script. The second inscription is completely in Arabic except a few Aramaic loanwords dated at the year 328 A.D. on a tombstone of the second Likhmid dynasty king of al-Hirah (Jensen, 1986: 324). Third was a trilingual (Greek, Syriac and Arabic) inscription dated at the year 512 A.D., discovered in Zebed near Aleppo in 1879, where the Arabic portion consists of personal names (Diringer, 1985: 271). Finally, a bilingual Greek and Arabic inscription discovered at Lejā in Haarān, south of Damascus dates back to 56B A.D., this states that Sharāhil son of Zālim, built the martyrium a year after Khayber destruction (Bellamy, 1991: 99).

Arabic alphabets

Arabic is a Semitic language of a phonemic sound-based writing system.

Unlike the Greek and Roman alphabetical scripts, Arabic and Hebrew are consonantal scripts (Cook and Bassetti, 2007: 5). Arabic is a right-to-left cursive script of twenty eight letterforms transliterate the rich variety of Arabic consonantal sounds. Although some sources such as Coulmas (1996) and Gaur (1987) have counted lām-alif (لا) a twenty-ninth letterform which is the result of the joining of two existing forms alif and lām. This should not therefore be counted as a new letterform.

The six new consonants added to the twenty two of the old Semitic alphabets according to Jensen (1986:327-328) are: ghain (غ), a voiced velar fricative; zā (ظ), a voiced emphaticate; dād (ض), an emphatic; dhāl (ذ), a voiced dental fricative; khā (خ), an unvoiced velar fricative; and thā (ث), an unvoiced dental fricative.

The shapes of Arabic letters are determined by their positions in the word.

There are four different positions to determine letterform shapes. In the independent position, the letterform is isolated from connection with other

letters. Word-initial, the letter is linked to the following letter. A word-middle position, the letter is connected to the preceding letter as well as the following one. Alternatively, at word-final, the letter is connected to the preceding letter. However, six letters alif, dāl, dha, rā,zā and wāw have two letterform shapes: independent and final positions. Arabic letter names and their variant forms are shown in figure 1.

Figure1. The variant forms of Arabic letters

Name	Phonetic	Isolated	Final	Medial	Initial
alif	[ʔ]	ا	ـ		
ba:	[b]	ب	ـب	بـ	بـ
ta:	[t]	ت	ـت	تـ	تـ
tha:	[θ]	ث	ـث	ثـ	ثـ
ji:m	[j]	ج	ـج	جـ	جـ
ḡa:	[ɣ]	ح	ـح	حـ	حـ
kha:	[x]	خ	ـخ	خـ	خـ
da:l	[d]	د	ـد		
dha:l	[ð]	ذ	ـذ		
ra:	[r]	ر	ـر		
za:	[z]	ز	ـز		
si:n	[s]	س	ـس	سـ	سـ
shi:n	[ʃ]	ش	ـش	شـ	شـ
sa:d	[s]	ص	ـص	صـ	صـ
da:d	[d]	ض	ـض	ضـ	ضـ
ta:	[t]	ط	ـط	طـ	طـ
za:	[z]	ظ	ـظ	ظـ	ظـ
'ain	[ʔ]	ع	ـع	عـ	عـ
ghain	[ɣ]	غ	ـغ	غـ	غـ
fa:	[f]	ف	ـف	فـ	فـ
qa:f	[q]	ق	ـق	قـ	قـ
ka:f	[k]	ك	ـك	كـ	كـ
la:m	[l]	ل	ـل	لـ	لـ
mi:m	[m]	م	ـم	مـ	مـ
nu:n	[n]	ن	ـن	نـ	نـ
ha:	[h]	ه	ـه	هـ	هـ
wa:w	[w]	و	ـو	وـ	وـ
ya:	[y]	ي	ـي	يـ	يـ

Arabic vowels

Arabic has six vowels, three long and three short each of the vowels /a/, /i/ and /u/. The long vowels are represented by the three consonants alif /æ/, waw /u:/, and ya /i:/. At the end of the sixth century A.D., the Arab invented a system of

signs to short vowels, geminate consonants, and the absence of vocalization (Bellmay, 1991: 94). For short vowel notation, there are two systems. The oldest one is the use of coloured dots to distinguish them in the original text. /a/ is noted by a dot above the line. A dot on the line signifies /u/ and a dot below the line /i/. In the early eighth century A.D. in Basra, Arabs used supralinear and sublinear diacritical marks as a new system of noting short vowels (Diringer, 1985:276). Fatha (◌َ) is a short diagonal line above the consonant to represent /a/. kasra (◌ِ) is diagonal line below the consonants for the short vowel /i/ representation, and damma (◌ُ), a minimized Arabic letter waw, is placed above the consonant for /u/. There are also special signs used in Arabic scripts to facilitate reading.

Diacritical Marks

According to Campell (1997:1-2), the following are the main signs used in Arabic scripts.

Shadda ◌ّ is used to indicate consonant gemination. Instead of writing the consonant twice, this is placed over the letterform as in (صَفَّحَ), 'forgave'.

Sukun ◌ْ is to specify that a consonant is vowel less. For instance (شَمَالٌ), 'north', is shamal where ma' is marked.

Nunation is used to indicate an indefinite noun by adding either -un, or -an in the oblique cases or -in the nominative case as in the example of madinat 'town' below

Table1. Nunation cases.

Nominative	madinatun	مَدِينَةٌ
Oblique	madinatan	مَدِينَةً
Oblique	madinatin	مَدِينَةٍ

Hamza َ indicates a glottal stop. It stands with alif in the initial position with fatha, kasra or damma as required (أَسْمَاءُ), 'names'. Hamza can be written on an alif (سَأَلَ), 'asked' or waw (شُؤُنَ), 'affairs' or carried by ya (نَائِمَ), 'a sleep' in the middle of the word or on the line as a word-final position (سَمَاءُ), 'sky'.

Madda ّ occurs when a long alif follows a glottal stop, hamza is removed and madda is written as superscript above alif. Madda may be positioned word initially (آل عَائِدَاتُ), 'Ayeds' (my family name), word- medially (الْقُرْآنُ), 'the Holy Quran' and word finally as (اقْرَأْ), 'read' an imperative.

The Holy Qur'an diacritical marks

There are special diacritical marks used only in the holy Quran to ensure accurate recitation. A rounded zero (◌ْ) above vowels (alif, waw and ya) indicates an increase of that character, which is therefore treated as a silent

letter whether it is in a stop of a recitation or continuity positions as in (أُولَئِكَ)

'those'. A zero-based rectangle (◌°) above alif followed by a fatha marked letter indicates that it is added only in case of continuity not as a stop, as in (

أَنَا خَيْرٌ مِنْهُ) 'I'm better than him'. A small M (م) indicates a change of ba (ب) or

na (ن) into ma (م) if they were preceded by strict ma (م), as in (مُنْبِتًا)

'spread'. Placing the mark madda (˜) over the letter indicates the need for

lengthening the duration of its pronunciation (dilation), as in (الْمَلَأْتُهُ) 'doom

day'. A horizontal line above the word and placing this sign (ﷻ) at the end of

the verse indicates a prostration as in prayer (Sajda= to bow down), as in

figure2.

Figure2. Surah Ar-Ra'd, verse 15.

15. And unto Allâh (Alone) falls in prostration whoever is in the heavens and the earth, willingly or unwillingly, and so do their shadows in the mornings and in the afternoons.

وَلِلَّهِ يَسْجُدُ مَنْ فِي السَّمَوَاتِ وَالْأَرْضِ طَوْعًا
وَكَرْهًا وَظَلَمْتُهُمْ بِالْعَدْوِ وَالْأَصَالِ ﴿١٥﴾

The placement of the sa (س) at the last letterform of some words requires a short pause that indicates that the letter is linked with the following sound, as

in (كَلَّا بَلْ رَانَ عَلَى قُلُوبِهِمْ) 'Nay! But their hearts are covered by sins'.

Stop diacritical marks in the Holy Quran

There are six types of stop marks that represent six different rules to follow while reciting the verses in the holy Quran.

1. Obligatory stop mark (ـ). It requires a complete stop at the end of the word,

as in (إِنَّمَا يَسْتَجِيبُ الَّذِينَ يَسْمَعُونَ) 'it is only those listen to the message of the prophet'.

2. Prohibited stop mark (لا). Here the reader must not stop at the end of the

word (قَلِيلًا), 'small gain'. S/he should continue until the end of the verse.

Figure3. Surah Al-Baqarah, verse 174

174. Verily, those who conceal what Allâh has sent down of the Book, and purchase a small gain therewith (of worldly things), they eat into their bellies nothing but fire. Allâh will not speak to them on the Day of Resurrection, nor purify them, and theirs will be a painful torment.

إِنَّ الَّذِينَ يَكْتُمُونَ مَا أَنْزَلَ اللَّهُ مِنْ
الْكِتَابِ وَيَشْتَرُونَ بِهِ ثَمَنًا قَلِيلًا أُولَٰئِكَ
مَا يَأْكُلُونَ فِي بُطُونِهِمْ إِلَّا النَّارَ وَلَا
يُكَلِّمُهُمُ اللَّهُ يَوْمَ الْقِيَامَةِ وَلَا يُزَكِّيهِمْ
وَلَهُمْ عَذَابٌ أَلِيمٌ ﴿١٧٤﴾

3. Possibility to stop or continuity mark (ج). The reader has the right to stop at

the marked word, (وَالصَّلَاةِ) 'the prayer', or continue reciting. Both are correct.

Figure4. Surah Al-Baqarah, verse 153

153. O you who believe! Seek help in patience and *As-Salât* (the prayer). Truly! Allâh is with *As-Sâbirûn* (the patient).

يٰۤاَيُّهَا الَّذِيْنَ ءَامَنُوْا اسْتَعِيْنُوْا بِالصَّبْرِ وَالصَّلٰوةِ
 اِنَّ اللّٰهَ مَعَ الصّٰبِرِيْنَ ﴿١٥٣﴾

4. This mark (**ص**) indicates the possibility of stopping even though continuity is preferred.

Figure5. Surah Al-Baqarah, verse 33

33. He said: "O Adam! Inform them of their names,"

قَالَ يٰۤاٰدَمُ اٰنِيْنْهُمْ بِاَسْمَائِهِمْ فَلَمّٰ اَنْبَاَهُمْ

5. This mark (**ق**) indicates the possibility of stopping which is preferred, as in (**عِنْدَ اللّٰهِ**) 'with Allah'.

Figure6. Surah Al-Baqarah, verse 110

Salât), and give *Zakât*, and whatever of good (deeds that Allâh loves) you send forth for yourselves before you, you shall find it with Allâh. Certainly, Allâh is All-Seer of what

وَمَا تَقْدِمُوْا لِاَنْفُسِكُمْ مِنْ خَيْرٍ يَّحْدُوْهُ عِنْدَ اللّٰهِ
 اِنَّ اللّٰهَ يَمَّا تَعْمَلُوْنَ بَصِيْرٌ ﴿١١٠﴾

6. The mark (*** ***) indicates two stop positions are on the same verse, (

لَا رَيْبَ فِيْهِ

) 'there no doubt'; however reader can only choose one position to

stop. Stopping twice is a mistake.

Figure7. Surah Al-Baqarah, verse 2

2. This is the Book (the Qur'ân), whereof there is no doubt, a guidance to those who are *Al-Muttaqûn* [the pious believers of Islamic Monotheism who fear Allâh much

ذٰلِكَ الْكِتٰبُ لَا رَيْبَ فِيْهِ هُدًى
 لِّلْمُتَّقِيْنَ ﴿٢﴾

Arabic punctuation system

The punctuation system of Arabic is almost the same as that of the English language, except that the direction of comma in Arabic (،) opposes that of English (,), and there is no dash (-) in the Arabic punctuation system. Instead this could be substituted by commas or brackets (Ghazala, 2004:243).

By the middle of the sixth century A.D., Arabic scripts spread out of the Arabian Peninsula with armies spreading the message of Islam and by merchants. Many nations converted to Islam and learnt Arabic in order to read the Quran. A need arose for a system to solve the problem of letter same-shape for different consonants. The addition of dots whether one (خ, ن), two (ت) or three (ث) above the letterform or one (ج, ب) or two (ي) below the letter was the solution found to this confusing problem (Sampson, 1985: 95-96).

Arabic script is a nearly perfect system to transliterate phonemically sounds and to prevent the irregular spellings that the English language is afflicted with, despite many attempts at spelling reforms.

Arabic letterforms in other languages

As a result of the Islamic conquests Arabic letters were borrowed and are still in use by linguistically unrelated major living languages, such as Farsi, Kurdish, Urdu, Pashto, Sindhi, Uighur, Kashmiri, Nubian, and Barber. The Arabic letterforms were modified to represent sounds not present in classical Arabic. The list in table 2 contains examples of modified Arabic letterforms and added diacritics to relate them with their new languages' sounds.

Table2. The modified Arabic letterforms to represent sound not present in classical Arabic

Letter	Sound	Arabic letterform	Languages found in
گ	hard g	ك (kāf)	Kashmiri, Kurdish, Persian, Uighur, Urdu
پ	p	ب (bā')	Kashmiri, Kurdish, Persian, Uighur, Urdu
ڤ	v	ف (f ā')	Kurdish, Persian
ژ	like j in "Jacques"	ز (zā')	Kashmiri (ts sound), Kurdish, Urdu
ٹ	retroflex/ hard t	ت (tā')	Kashmiri, Urdu
ڈ	retroflex/ hard d	د (dāl)	Kashmiri, Urdu
ڑ	retroflex/ hard r	ر (rā')	Kashmiri, Urdu
ټ	retroflex t	ت (tā')	Pashto
د	retroflex d	د (dāl)	Pashto
ر	retroflex r	ر (rā')	Pashto
څ	ts in "lets"	ح (hā')	Pashto
چ	ch in "chin"	ح (hā')	Kashmiri, Kurdish, Persian, Uighur, Urdu
ڳ	nya, ng	ك (kāf)	Uighur

Arabic Calligraphy

Early period of Arabic Calligraphy

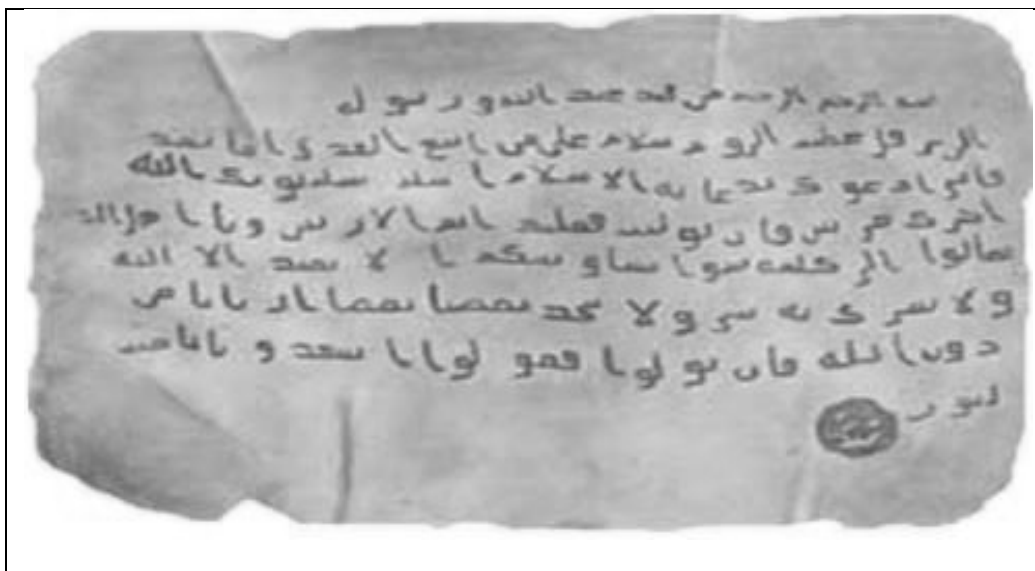
Many historians have falsely, claimed that the Arabs had no transliterated works before the emergence of Islam. However, Arab tribes in the Arabian Peninsula were concerned about poetry and determined to preserve their heritage of magnificent odes. Hammad the Rhapsodist compiled seven poems

which are considered the best work of these pre-Islamic poets. Arab tribes agreed to hang them on the walls of the Ka'ba at Makkah.

Undoubtedly the prophet Mohammed's (peace be upon him) message of Islam and the revelation of the Holy Quran contributed to the development of Arabic scripts and established a new era in the Arabian nomadic society. According to Aljishiari in his book Ministers and Writers ([no date], cited in Zayed, 2004), the prophet (peace be upon him) assigned some muslims to write down the Quran immediately after the revelation in Makkah and later in Madinah.

During that period, there were two types of scripts: the regular scripts that had been used in recording people's daily life needs in the new Islamic state in Madinah, and the one used in writing the prophet's letters to the kings and emperors of the Roman and Persian kingdoms (fig.8).

Figure8. Prophet Mohammed's letter to the Roman emperor



'In the name of Allah, the Beneficent, the Merciful.
This letter is from Muhammad the slave of God and His Messenger to Heraclius, the ruler of the Byzantines.
Peace be upon him who follows the right path.
I am writing this invitation to call you to Islam. If you become a Muslim you will be safe - and God will double your reward, but if you reject this invitation of Islam you will bear the sin of having misguided your subjects. Thus do I urge you to heed the following:
"O People of the Scriptures! Come to a word common to you and us that we worship none but Allah and that we associate nothing in worship with Him,

and that none of us shall take others as Lords beside Allah. Then if they turn away, say: Bear witness that we are Muslims.” (prophet’s stamp)'

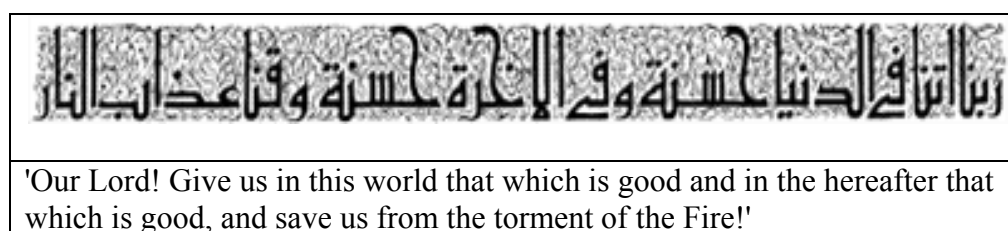
The other script is the Kufic script that had been used for writing the holy Quran. The transliteration of the Holy Quran played a central role in the development of the Arabic language as a sacred language and reflected on the cursive form of Arabic script. The Arabs were compelled to reform their script and to beautify it so that it became worthy of the divine revelation (Safadi, 1987). Writing may express ideas, but to the Arab it became an art in itself (calligraphy) which must express the broader dimension of aesthetics.

Major styles of Arabic Calligraphy

Calligraphy is the beauty of handwriting. It is the principal Islamic art that was considered to give pleasure to the eye, joy to the heart and fragrance to the soul (according to Imam Ali, the fourth Caliph). Since the first writing of the Holy Quran in Makkah, writers strived to produce perfectly correct manuscripts that were propitious for the honourable words of God. Because of their efforts, masterpieces of the Holy Quran manuscripts survive in many of the world's museums.

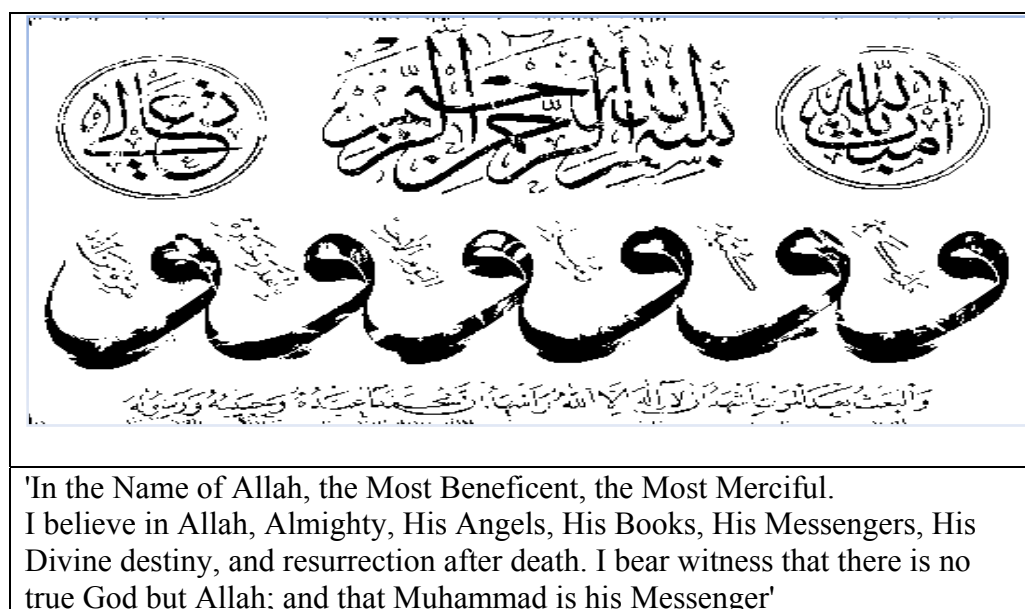
The Kufic and Naksh scripts were the two major scripts which were developed for Arabic writing. The Kufic script is the first script Arab calligraphers used to write manuscripts of the Holy Quran on parchment rolls. It developed in Kufa in Mesopotamia (Iraq) in the seventh century A.D. The Kufic script is square, bold, and squat, with straight vertical and horizontal lines meeting at ninety-degree angles which omit the diacritical marks of vowels. Because of its characteristics, Kufic was employed for writing on stones and the walls of mosques and metals (fig. 9) (Diringer, 1985: 271-272).

Figure9. Kufi script of a prayer



The Naskh script developed at the beginning in Hijaz (Makkah and Medinah) in the seventh century. Words are cursively scripted in letters of a rounded-shaped curved around each other to give a decorative dimension to the transliterated text, mostly on papyrus. Naskh script contrasts with Kufic script in its lack of structural complexities and its use for daily life correspondence (fig.10) (Jensen, 1986:326).

Figure10. Naskh Script of a common saying

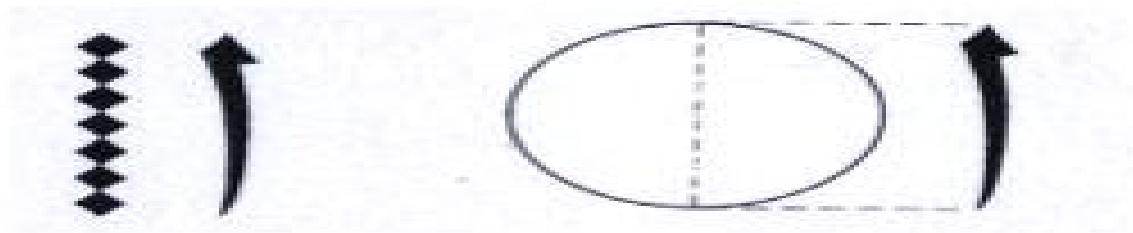


Evolution of Arabic Calligraphy

Several cursive scripts arose from kufic and Naskh scripts, whose lack of elegance and scripting regulations contradict the aim of Arabic Calligraphy to

glorify the words of Allah, therefore necessitating calligraphic reform. Ibn Muqlah, the Abbasid vizier and calligrapher, invented a calligraphic system based on the rhombic dot (formed by pressing the pen diagonally), the standard alif (five or seven rhombic dots long) and the standard circle (its diameter equal to the alif's length) (fig.11). Only six cursive scripts applied this system successfully, the so-called *sittah* (six in Arabic). These scripts are the Naskhi, Thuluth, Muhaqqaq, Rayhani, Riq'a and Tawqi (Coulmas, 1996, and Gaur, 1987). Daiwani and Taliq scripts are not among these six but are of the major styles and thus are included in this paper.

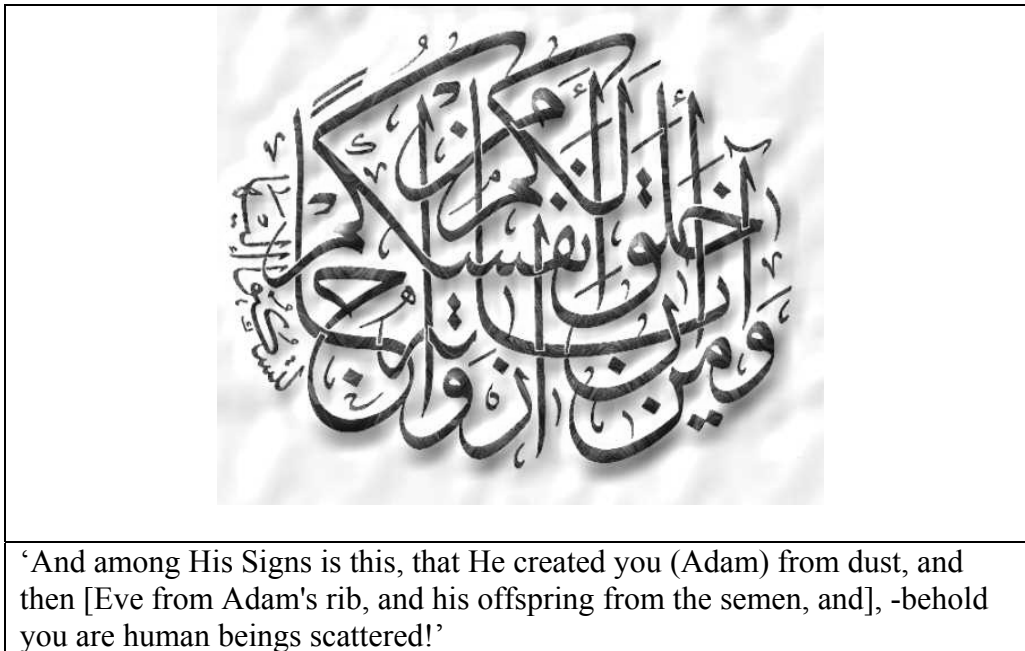
Figure11. Ibn Muqlah *sittah* system



Thuluth Script

The Thuluth (one-third) script is named because of the ratio of straight lines to curved ones. It developed during the Umayyad dynasty but gained recognition during the 10th century. Its curved, intersected and pointed letter-heads created its popularity as an ornamental script for headings and titles (fig.12). Because of its decorative features, Thulth was rarely used for transliterating the Holy Quran.

Figure12. Thuluth script of Surah: 30, Ar-Rum, verse: 21



Riqa Script

Riqa or Ruq'ah (small sheet) script has smaller, more curved and simplified clipped letters. The structural styles are taken mostly from Naskhi and Thuluth scripts (fig.13). Riqa became the official script of the Ottoman rulers for government documents and communication. Because of its straight lines and simple circles formation, Riq'a is a clear and readable handwriting used widely in the Arab world (James, 1988).

Figure13. Riq'a script of a prayer

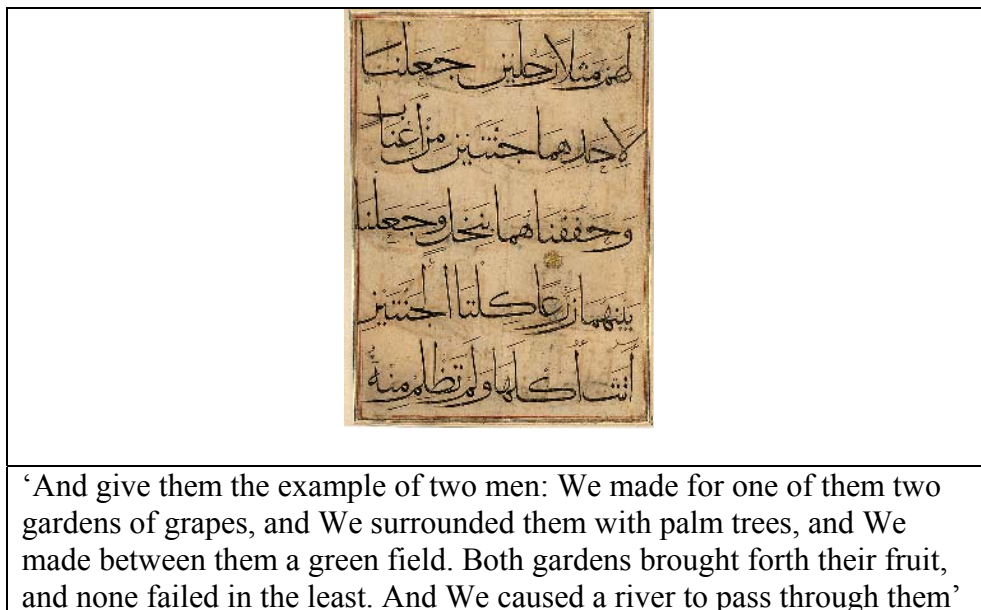


Muhaqqaq Script

Ibn al-Bawwab and Yaqut al-Must'asimi developed the Muhaqqaq script in the sixteenth century. Its "shallow sub linear curves and horizontally extended mid-line curvatures, combined with its compact word-structure, give it a leftward-sweeping impetus. Its varieties range from a somewhat rugged script to writing with delicate outlines and soft curves, and a bolder type with characteristics of both Thuluth and Naskh," (El Baba, 2002 [online]).

Muhaqqaq was a favoured script for the writing of the Qur'an at this stage, due to its powerful flowing form and regularity.

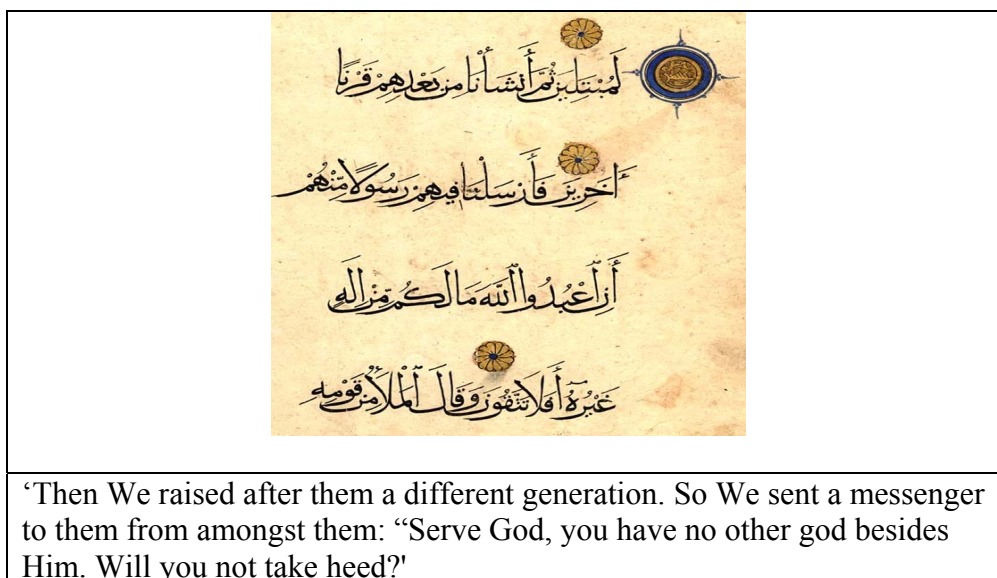
Figure14. Muhaqqaq script of Surah: Al-Kahf, Verses 32-33



Rihani Script

The Rihani script is one of the most beautiful and innovative scripts used by Ibn al-Bawwab in copying the Holy Quran during the period of the Abbasid dynasty. It is similar to a smaller version of Muhaqqaq, derived from Nakshi with Thuluth script features. Its elegance lies in the accuracy and precision in line drawing and control of the pen (fig.15).

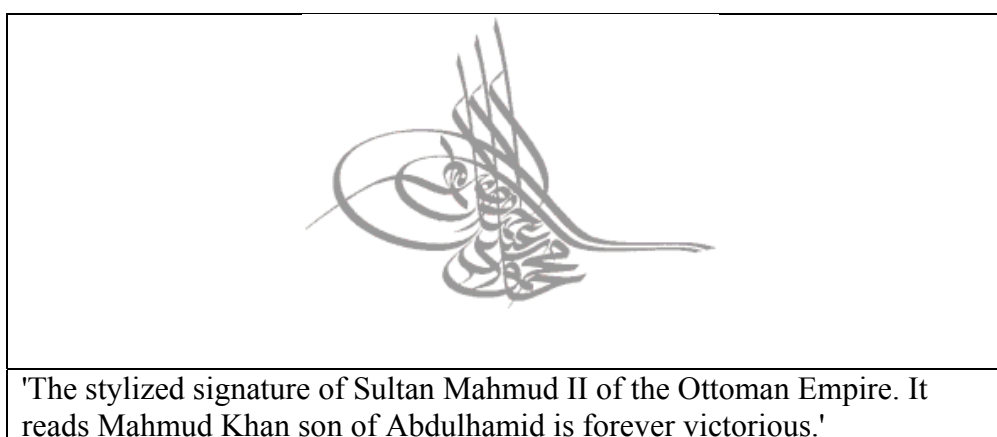
Figure15. Rihani script of Surah Al-mu'minun, verses 30-31



Tawqi Script

Tawqi (signature), also known as Tawaqi, is among other scripts invented by Ibn Muqlah. It was derived from the Riyasi script which the Abbasid caliphs used when signing their names and titles (fig.16).

Figure16. Tawqi signature of an Ottoman ruler



Ta'liq Script

Ta'liq is a cursive style used mainly for copying literary works in the Persian language and for royal family daily correspondence. It was developed by

Abdul Mali Buk in the tenth century. Ta'liq letters are rounded with exaggerated horizontal strokes derived from the Riqa script and its complicated and sloping quality from the Tawqi script. A combination of the Naskhi and Ta'liq scripts in the 14th century resulted in Nasta'liq. Nasta'liq consists of flowing lines, elongated horizontal strokes and exaggerated rounded forms with a neglected diacritical marks use (fig. 17). It is considered to be the native calligraphic style among Turks, Persians and Indians. Although, Arabs have a fondness for the Nasta'liq script, it was not used to copy the Holy Quran.

Figure17. Nasta'liq script of a prayer



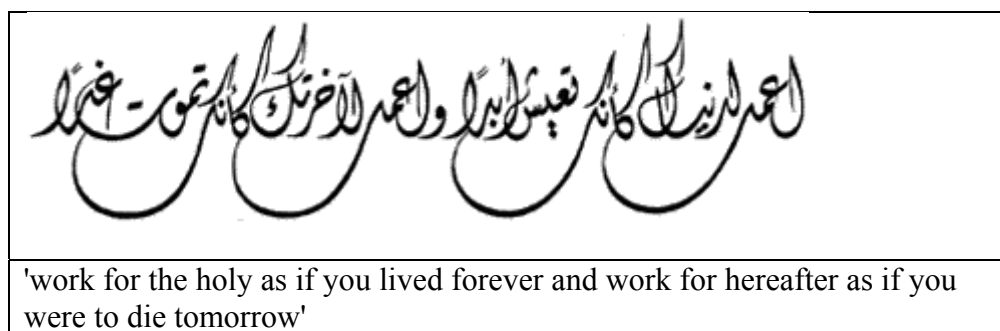
Diwani Script

The Diwani script was designed and developed solely for use by the state departments (diwans) of the Ottoman Empire and for the Ottoman rulers' decrees and resolutions in the sixteenth seventeenth centuries. It is a cursive script distinguished by the complexity of its lines, letter combinations within words and prolific use of diacritical marks and dots to fill the spaces around the letters. It was used as decoration for royal communication, and thus more

ornamental varieties of the Diwani script were developed. The two main varieties of the script are:

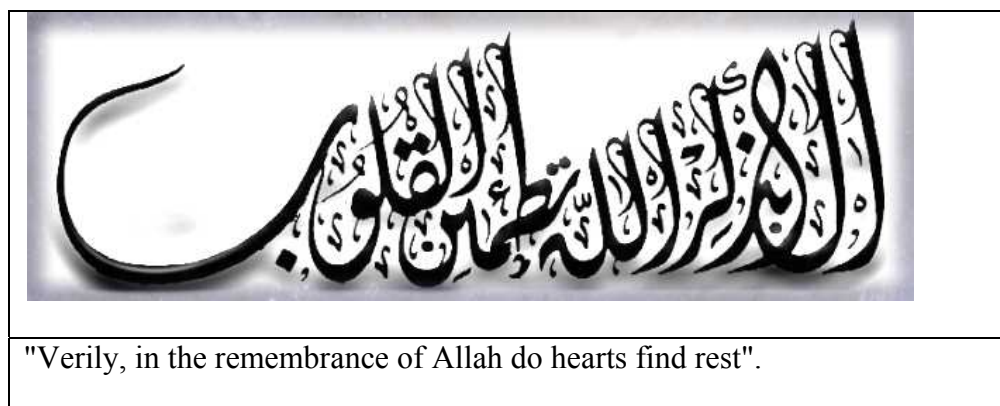
The Riq'a Diwani style of straight lines for the upper parts of the letter and curved lines for lower parts (fig. 18). It avoided decoration, which makes it easy to read and write.

Figure18. Riq`a Diwani script style of Prophet Mohammed saying



The Jeli or clear Diwani style is an ornamental script developed by Hafiz Uthman of intertwining letters, with a heavy use of diacritical marks and dots (fig. 19). The spaces between letters are filling devices which do not necessarily have any orthographic value.

Figure19. Jeli Diwani script style of Surah: 13, Ar-Ra'd, Verse: 28.



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