Inimitable handwriting
Graphical specificities of the Qur'an

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If we intend to use the term "Qur'anic calligraphy" we should be able to demonstrate the existence of graphic specificities in Qur'an copies, absent from or scarcely found in other texts. Not that multicolored illuminations, extravagant paper sizes, ritual performances, and various other non-paleographic and extra-codicological aspects do not make the Qur'an a special object—but when one finds the same *thuluth* or *naskh* writing styles in both Qur'anic and non-Qur'anic contexts, there seems, from a strict paleographic point of view, to be no additional skills required from the calligrapher to copy the Qur'an.

I will present here three aspects where the structure and contents of the Qur'anic text led to the development of such special skills. The first is technical in nature and goes by the name of "page justification," the second is aesthetic and concerns "*basmala* diversity,"[1] while "allograph semantics" is the last and looks at how the meaning of words shapes their visual form.

It should be noted that these three points are not, or only superficially, mentioned in the written historical sources about the art of writing. The only known source on "page justification" just states the rule, "*basmala* diversity" might be seen as too subjective a consideration, and the choice of "allographs" is perhaps unconscious. However, all can be detected in manuscripts.

Equally important is that these graphic devices are circumscribed to certain times, places, and selected works of individual calligraphers. The Qur'anic graphic specificity is therefore not universal, but limited and metamorphical in nature. In this regard "page justification" seems a late Ottoman phenomenon, "*basmala* diversity" a medieval one, while the "allographs semantics" general after the demise of *mawzûn* writing styles around the tenth century CE.

Qur'anic specificities strike as artistic exploits. As such they are efficient embodiments of the theological concept of the inimitability (*i'ajâz*) of the Qur'an, which usually refers to its content and language, but under the patronage of calligraphers extends to script. Unsurpassable calligraphers

for unsurpassable texts, the copyists seem to suggest. The economic interest for such subliminal advertising is evident—high specialization shunts off the competitors, and those with a know-how protected by arcane rules and sophisticated methods will see the value of their products increase. After all, the calligraphic milieu may well have succeeded in making literacy and refined handwriting insufficient requirements to penetrate the market of Qur'anic manuscripts.

1. Page justification

At various times the production of Qur'anic manuscripts involved complex organizational setups, yet never was the process so rationalized as during the late Ottoman period, when Europe was experiencing the industrial revolution. "Verse [end] in the corner" (Turkish: *ayet ber kenar*) is one of the devices adopted by calligraphers and consists in finishing each page with the last word of a verse (*aya*). François Déroche introduced the term "Standard Ottoman Qur'an" (hereafter SOQ), further discussed by Tim Stanley on the basis of a larger manuscripts corpus, and later substantiated with documentary evidence by Jan Just Witkam, who published a set of rules found in a manuscript concerning *ayet ber kenar*.[2] Here I will address this technique from the practitioner's point of view: how is a calligrapher working to attain his challenging goal and what is the utility of studying it?

Fig. 1. In the "Standard Ottoman Qur'an" each page finishes with the end of an *aya*—here in the handwriting of Hamid al-Amidi (Amidi, *Qur'an*...,78, 216). This constraint forces the calligrapher to expand **(right)** or compress **(left)** letters and interlexical space. (Photo: Courtesy of Mümtaz Seçkin Durdu, Hizmet Vakfı.)

In order to justify the page, the copyist must manage a careful expansion and compression of characters, ligatures and spaces, to compel with the common usage of keeping the texture of a written page as homogenous as possible. The perfect texture would have stretches evenly distributed along the lines. However, by analyzing a SOQ one can find that it is not machine-like perfect—which may be a hint that its refinement was not yet finished when Turkey abandoned the Arabic script in 1928 (fig. 1). The study of the amount of variation in the spatial distribution of stretches reveals the copyists mental algorithms coping with page justification (fig. 2).

That most of the stretched characters and ligatures do not appear on the last third of the lines shows the fine anticipatory skills of this particular copyist, Hamid al-Amidi.[3] It is a bit more difficult to explain why most stretches are concentrated in the line middle. It could be that the writer is not sufficiently proficient, or he might avoid the optical illusion that would make the borders of the text block break off if the stretches close to the edges would be too numerous. His behavior fluctuates much more on the vertical dimension of the fifteen lines long text block. The first three lines witness an adjustment period, where he moves from the

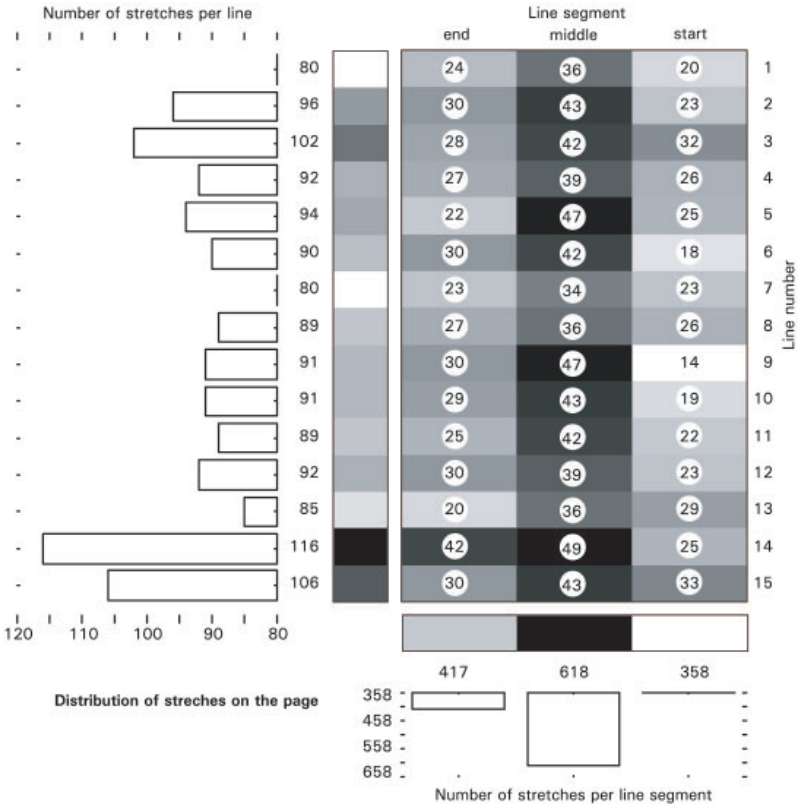

Fig. 2. Topography of dilatation (Amidi, *Qur'an*..., 2–48, *sura* "Al-Baqara"). (Diagram: Atanasiu, *Phénomène calligraphique*..., fig. 11–2.)

lowest quantity of stretches used, to a very high one. Having found the optimal quantity, the copyist stabilizes until the last two lines, with a drop in the middle of the page for a negative compensation. The end of the text block is characterized by an increase in stretches, symptom of a chronic difficulty of performing precise long-range anticipation.

The pattern described above typifies the graphic behavior of the copyist and as such can be used as a tool for graphonomic expertise. Dating or localizing a manuscript and ascribing it to a tradition or an individual, are the most usual expertise tasks. With such well-furnished databases as the tens of SOQ copied by many Ottoman calligraphers, one could also evaluate the degree of quality, test if the manuscript is mainstream or singular, and observe the variation in behavior during the lifetime of a copyist.

Space management is a universal issue of writing systems, sometimes with peculiarities such as the *aya* adjustment in SOQ, but generally grounded in a pool of common techniques. The historian should be aware of possible influences: it is clearly in connexion with Arabic, respectively Latin writing behaviors, that *circa* 65% of Near Eastern Hebrew manuscripts do not practice "lexitomy" at the end of lines, compared to only 20% in France and Germany. Whilst reading the remarks of a Hebrew paleographer about line management, one cannot stop thinking how well they apply to the goals of the Muslim copyist as well: "Within the stereotyped regularity and conventions of book production, line-ending stratagems provided the Hebrew scribe the chance to express his individuality and creativity. It seems that by the end of the twelfth century, or even earlier in some areas, scribes were not so much concerned with the functional purpose of the devices as with their instrumentality for demonstrating their craftsmanship, inventiveness and virtuosity."[4]

2. Basmala diversity

Ottoman calligraphers did take considerable troubles with their work, but they too had limits: for example in the use of the *basmala* shape, which is identical all along the SOQ. On this point they were outdone by the formidable Mamluk calligrapher Ibn Wahid (born 1249),[5] who in his Qur'an hailed as a wonder of the times makes a festival of shapes from the variety of *basmala* styles. Let us now enter the artist's mind and explore his behavior.

Beside revealing the complexity of his decisions and conducting an interesting exercise in paleopsychology, my primary goal is more practical. A treasure now in the British Library and showcased in its permanent exhibition, Ibn Wahid's Qur'an has been mutilated of it's penultimate folio, containing the two second last chapters (*sûra*-s). Because the rest of the manuscript is intact, there is nevertheless enough data to enable a paleographic reconstruction of the missing *basmala* on statistical basis.

2.1 Allographic repertoire

We might imagine the *basmala* as a textual genome made of letters. In the script used by Ibn Wahid, some of them can take more than one

graphic shape (fig. 3). Not every such "allograph" can coexist with any other—they obey to internal combinatorial rules. Thus, different visual personalities are generated and in the course of the Qur'an the *basmala* mutates from one to another.

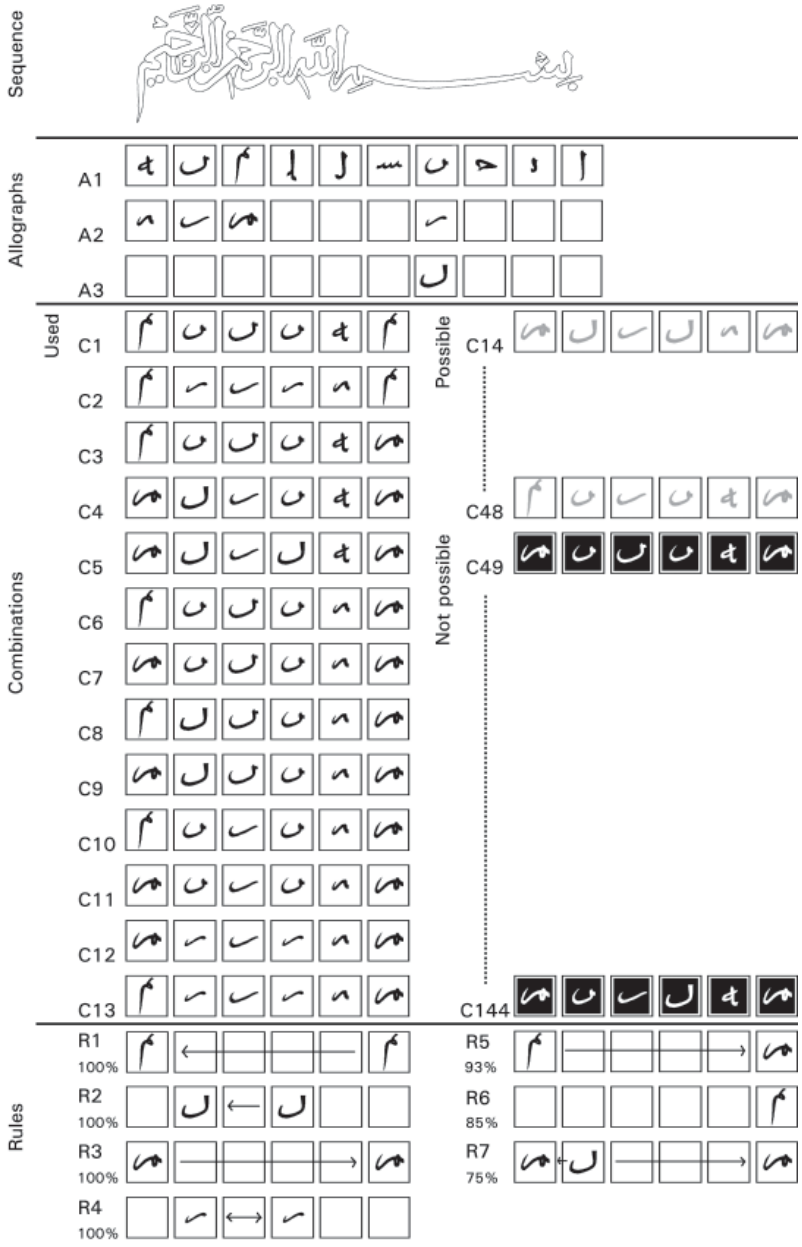

Fig. 3. Allographic combinations in *basmala*-s. (Diagram: Atanasiu, *Phénomène calligraphique*..., fig. 14–15.)

2.2 External diversity

The aesthetic credo of Ibn Wahid is that *basmala*-s should change, but the awareness and intensity of his own credo fluctuates. Plotting the types of *basmala*-s against the length of the *sûra*-s in the last of the seven volumes, we see that the closer the *basmala*-s are to one another, the more their rate of change increases. In other words, the spacing of events in time—start of *sûra*-s—acts as a stimulant on Ibn Wahid's fantasy (fig. 4-A).

His reaction however does not increase linearly. Over almost two quarters of the manuscript, where *basmala*-s are spaced at no less than seven pages distance, he is reacting very slowly, changing the *basmala*-s just a few times. Then, his sensibility aroused, the pace gains in rapidity, and when *basmala*-s occur every two or five pages, he becomes hypersensitive. Finally, with *basmala*-s facing one another over double pages, he runs out of rules and his behavior becomes unpredictable.

Thus we see how memories of past graphic events play a role in Ibn Wahid's behavior. To further complicate matters, one should also consider the span of his memory. Immediate memory, going back to just the

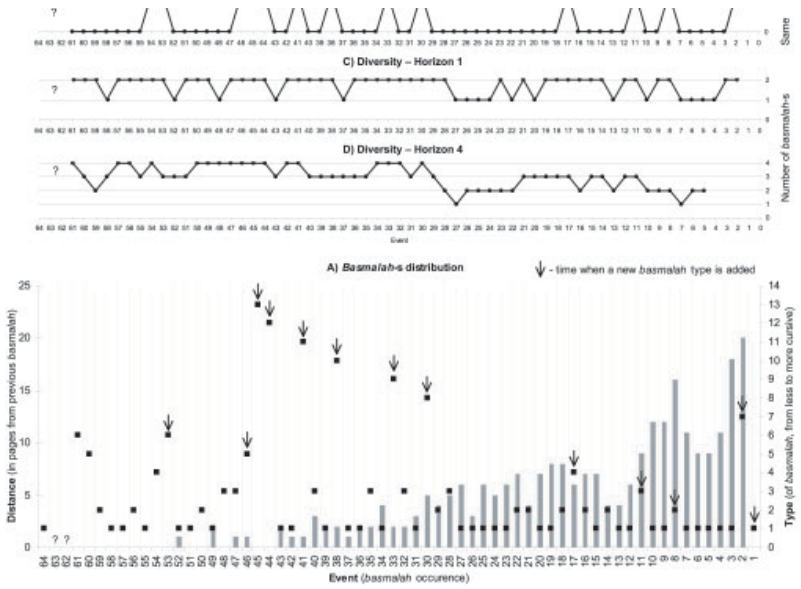

Fig. 4. These diagrams show the behavior of the calligrapher concerning the choice of *basmala* type. **(A)** plots the type as it occurs over the seventh volume of Ibn Wahid's Qur'an and the lengths of *sûra*-s (note the two missing *basmala*-s, nr. 62 and 63; the arrows show the first occurrence of each *basmala* type). **(B)** shows the moments when new types where added to the existing ones (also displayed by an arrow on A). **(C)** & **(D)** gives the number of types on a window of 2, respectively 5 *basmala*-s (hence "a memory horizon of 1 or 4 elements"). (Diagram: Atanasiu, *Phénomène calligraphique…*, fig. 11–16.)

last *basmala*, shows a regular pattern at the end of the manuscript (fig. 4-C), whereas the short memory of a length of four *basmala*-s is a less clear pattern (fig. 4-D). When analyzing the points where new types of *basmala*-s where introduced, we will observe that the graphical newness flattens towards the end, almost no new *basmala* type being chosen (fig. 4-B).

2.3 Internal combinatorics

Ibn Wahid does not use all the *basmala* shapes at his disposal—even if in the last volume there are 62 surviving *basmala*-s, he selects only 13 types out of 144 theoretically possible (fig. 3, C1–C13). The choices are restricted by the rules he applies to the simultaneous presence of allographs, as revealed by the examination of his 13 choices. For example, if the first of the two final *mîm*-s—in *bism*—is of type 1, then it must be followed by one of the same type in *rahîm*. By grading the allographs by their degree of curvature—from straight to wavy to round—additional types falling outside the observed range of 13 *basmala*-s are eliminated. Overall, the potential choices of Ibn Wahid are reduced to 48 (fig. 3, C1–C48) by using combinatorial rules that apply to 100% of the observed combinations and only 16 choices when including non-categorical rules (fig. 3, R1–R4, respectively R5–R7).

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In this short presentation I outlined some of the basic principles governing the generation of allographic sequences by a calligrapher. This type of research, when computerised, can lead to very promising applications in the field of handwriting expertise, script reconstruction, and simulation.[6]

3. Allograph semantics

Since sometimes a letter can take many shapes, it would be interesting to know the functions of this alphabetic wardrobe, besides its aesthetic appeal. A fairly widespread usage of allographs in Qur'ans is for emphasizing the structural articulations of the text. For example, when using the same style for the body text and the title, chapter (*sûra*) headings can contain a greater amount of cursive allographs, thus resulting in visual contrast. Studying the usage of the "long *kâf*" I found that allographs can be also used at a more elementary level, to highlight some word, because of the importance of its meaning (fig. 5). The idea can look totally unimpressive—after all, what we need to do today is just press <Ctrl+B> for "**bold**" to emphasize a word –, but one should remember that by being "proportional" *mansûb*, as opposed to "weighted" *mawzûn*, there is no canonical way in post-Ibn Muqla Arabic calligraphy of varying the weight of strokes while maintaining the same writing size.[7] Thus, if one stays within the norms, there is, except for color, nothing to catch the attention of the reader towards a specific word other than the allographs.

Therefore it does not come as a surprise that in the last part of Ibn Wahid's Qur'an (vol. 7, fol. 98v°–166v°) out of 31 words written with a long *kâf*, more than half of the occurrences are concentrated in only three

words with various declinations (93 out of 171, i.e. 54%), and more than three quarters in just seven words (136, i.e. 80%). These words belong to the roots and grammatical auxiliaries "lying" <*k dh b*> (43), "yours" <*-ka*, *-kum*, ...> (31), "impiety" <*k f r*> (19), "being" <*k w n*> (16), "remembering" <*dh k r*> (13), "like, as" <*ka-*> (8), "judgement" <*h k m*> (6). I suppose that writing *kâna*, *kânû*... with a long *kâf* has to do with aesthetics, to give a more complex shape to an otherwise dull word, and that the comparison *ka-* receives a long *kâf* in order to make it more readable, by clarifying in this way the grammatical structure of the word (a point attested in historic essays on writing[8]). Also, if we consider the progressive multiplication of the usage of the long *kâf* along the line (48 in the first third, 56 in the middle, and 67 at the end), we see that the allograph served Ibn Wahid as a convenient line justification tool.

Even after these caveats it is still difficult to explain the huge share accorded to <*k dh b*>, <*-ka*, *-kum*...> and <*k f r*>, other than considering the subject of the text where they occur and their importance within. The distinction between what is *kufr* or *kadhb* and what is not, is indeed crucial to a religious codex such as the Qur'an. It teaches about the ruses of *kadhb* (lying), thus the vocative *-kum*! (you!), by which God addresses in a terrifying directness his creatures as pointing a finger at them. Here, the similarity between the finger and the long *kâf* would not have better suited to Ibn Wahid's tendency to use extraordinary allographs to highlight the strategic words of a text.

The link between the form of the long *kâf* and "impiety" did not escape poets: when referring to it, Rumi calls it "the *kâf* of impiety" (*kâf-i kufr*).[9] Here poetry meets paleography, since Rumi's pun could not have worked if it were not typical of the word *kufr* to be written with a long *kâf* allograph (which by the way is called "kufic kâf" (*kâf-i kufi*), something that would certainly please François Déroche and would take us back to his

Fig. 5. These two examples show what can happen to an allograph in the context of a bilingual text. Case 1 **(Right)**: The allograph "long *kâf* " present in the Arabic word *nukaffir* is not kept in the Persian translation, although a letter *kâf* is available. Case 2 **(Right)**: There is no *kâf* in the translation "you" *shomâ* of *–kum*, thus using any of its allographs is impossible. Case 3 **(Left)**: No *kâf* in the Arabic "opressors" *zâlimîn*, but one in the Persian *sitam-kârân* – the calligrapher choose to use a "long *kâf* ." (Hand drawn copy, outlines and highlighting by the author, after Bibliothèque nationale de France, Supplement Persan 1610, 172v°, 173r°)

method of dating "kufic" manuscripts by this particular shape of the letter *kâf* [10]). However there is more in Rumi's comparison that he might have found by looking into a Qur'an. In Persian literature the long *kâf* designated also a special category of eyes of Turkish beauties, long and narrow, with eyelids almost touching—a sight so seducing as to forecast consequences of the most dreadful *kufr*.[11] Thus, by an intelligent use of allographs, the skin of script becomes a mediator between the world and its meaning.

The cultural construction seen above is based on the premise that the root for *kufr* posses a *kâf*—it would not be possible without it. Yet this is exactly what happens when the Qur'an is translated: *kufr* will still be *kufr* in Persian, but *-kum* is *shomâ* and *zâlimîn* "oppressors" has no *kâf* like does his Persian translation *sitam-kârân* (fig. 5). Everything what a calligrapher might have patiently learned, he must rethink when travelling and speaking languages. In the case of translated Qur'ans even their visual aspects is but an approximation of the Arabic original— visual *i'ajâz*.

The principle of "semantic allographs" is the most clear in Qur'anic manuscripts, but other contents have also beneficed from this feature of graphic language. Arabic Bibles yield a high frequency of long *kâf*-s for "you two" *-kumâ*, "word, say" <*k l m*>, "remembering" <*dh k r*>, "judgment" <*h k m*>, "eating" <*' k l*>. We have already encountered some of them in the religious context of the Qur'an (<*dh k r*>), other are more specific to the Bible ("the word" *kalima*) or particular to the Genesis ("you two" *kumâ*, "eating [dual]" *a'kalâ*), the section I mined for data.

4. Conclusion

In this paper I presented aspects characteristic for the copying of the Qur'an. I showed how they could be used in graphonomic expertise and their application to paleographic restoration and Arabic typography. They may help decide the appropriateness of the term "Qur'anic calligraphy" and define its spectrum. In a broader sense, they ask for the evaluation of the role of the Qur'an in the evolution of Arabic calligraphy as a place of invention and experiment, and a gathering point for graphic fashions.

Notes

Paper based on a presentation given at the International Conference on the Manuscripts of the Qur'an, Bologna, 26–28 September 2002.

1 The *basmala* is the formula "In the Name of God, the Compassionate, the Merciful" (*Bism Allah al-Rahmân al-Rahîm*). In a Qur'an manuscript it is stated at the beginning of chapters.

2 François Déroche, "The Ottoman Roots of a Tunisian Calligrapher's Tour de Force," *International "Interactions in Art" Symposium (25–7 November 1998, Ankara, Turkey)* (Ankara: Türkiye Is Bankası, 2000), 106–9; Tim Stanley, "Shumen as a Centre of Qur'an Production in the 19th Century," ed. Irvin Cemil Schick, *Ugur Derman Festschrift: Papers Presented on the Occasion of His Sixty-fifth Birthday* (Istanbul: Sabancı Üniversitesi, 2000), 483–512; Jan Just Witkam, "Twenty-nine rules for Qur'an copying. A set of rules for the lay-out of a ninethenth-century Ottoman Qur'an manuscript," *Journal of Turkish Studies* 26:1 (2002): 339–48.

3 Hamid al-Amidi (copist), *Al-Qur'ân al-Karîm* (Istanbul: Hizmet Vakfı, 1974). Hamid al-Amidi (1891–1982) was a celebrated Turkish calligrapher, who had among his students such influential figures of the modern history of calligraphy Hasan Celebi (Turkey) and Hâshim Muhammad al-Baghdâdî (Iraq). See http://www.artnet.com/library/00/0054/T005419.asp and http://www.geocities.com/sajjadkhalid/Profiles/Hamid.html

4 Malachi Beit-Arié & Nourit Pasternak, "Comfort of reading, comfort of writing: Some reflections on line management," *Gazette du livre médiéval* 31 (1997): 20.

5 David Lewis James, "Some Observations on the Calligrapher and Illuminators of the Koran of Rukn al-Din Baybars al-Jashnagir," *Muqarnas* 2 (1984):147–7, http://archnet.org/library/downloader/document/3893/DPC0565.pdf and David Lewis James, *Qur'ans of the Mamluks* (London: Alexandria Press, 1988).

6 For the outcome of the analysis of Ibn Wahid's *basmala* and the reconstructed missing folio see Vlad Atanasiu, *Le phénomène calligraphique à l'époque du sultanat mamluk (Moyen-Orient, XIIIe–XVIe siècle)* (Ph.D. thesis, Paris: École pratique des Hautes Études, IVe Section, 2003), 167–175. http://www.waqwaq.info/atanasiu/studies/atanasiu2003phd.pdf

7 On the *mawzûn* graphical system see Vlad Atanasiu, "Les réalités subjectives d'un paléographe arabe du Xe siècle," *Gazette du Livre médiéval* 43 (2004): 14–22. http://www.waqwaq.info/atanasiu/studies/atanasiu2004nadim.pdf

8 Al-Husaynî al-Shirâzî al-mulaqqab bi-Sirâj, Tuhfat al-muhibbîn, ed. Muhammad Taqî' Dânish-Pazuh, Irâj Afshâr & Karâmat Ra'nâ Husaynî (Tehran: Nuqta, 1997), 233.

9 Annemarie Schimmel, *The Triumphal Sun: A Study of the Works of Jalâloddin Rumi* (New York, State University of New York Press, 1993), 166.

10 François Déroche, "Un critère de datation des écritures coraniques anciennes: le *kâf* final ou isolé," *Damaszener Mitteilungen* 11 (1999): 87–94. The *kâf* exercises magnetic powers on researchers: for a paleographic expertise method based on the character's upper stroke slant see Nikolaj Serikoff, "Image and Letter: "Pace" in Arabic Script (a Thumb-nail Index as a Tool for a Catalogue of Arabic Manuscripts. Principles and Criteria for its Construction)" *Manuscripta Orientalia* 7.4 (2001): 55–66.

11 Cheref-Eddîn-Râmî, Anîs el-'Ochchâq: Traité des termes figurés relatifs à la description de la beauté, ed. Claude Huart (Paris: F. Vieweg, 1875), 29.In this short presentation I outlined some of the basic principles governing the generation of allographic sequences by a calligrapher. This type of research, when computerised, can lead to very promising applications in the field of handwriting expertise, script reconstruction, and simulation.[6]