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THE CALLIGRAPHER VS. THE MACHINE: TOWARDS DE-ORIENTALIZING THE LATE-ARRIVAL OF THE PRINTING PRESS TO THE ISLAMIC WORLD

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Abstract

Much has been written on the issue of the late-arrival of the printing press to the Islamic World. A vast majority of these writings conclude that the major reasons for this late arrival were the ignorance of the Ottoman Turks to this kind of technological developments (the so-called "Eastern/Islamic ignorance") and the selfishness of the Ottoman learned class, the *ulema*. However, in this study, although the role of the hubris of the Ottoman cultural elite cannot be completely denied, it is emphasized that this discourse is mostly fueled by Orientalist undertones. Therefore we argue that the printing press was resisted by the Ottoman cultural elite not because they were ignorant, but because they were too sophisticated and elegant to accept to put this machine to use. To be able to understand this argument, one must first understand why and how significant the act of writing was in the Islamic tradition, the education of a calligrapher and the role of these calligraphers in the society. Therefore, we first summarize the emergence of calligraphy in the Islamic tradition, its theological background and significance, then look at the calligrapher and the society, and finally focus on the confrontation with the printing press. Without understanding the true nature and meaning of Islamic calligraphy, we believe, it is a futile task to persuade the reader why the Muslim cultural elite might have reacted reluctantly to the machine. We conclude this paper with a look at the future, by drawing attention to how computers complicates this process even further.

Keywords: Islamic Calligraphy, East-west Discourse, Orientalism, Islam and the West, Ottoman Empire.

1. Introduction

Much has been written on the issue of the late-arrival of the printing press to the Islamic World.¹ A vast majority of these writings conclude that the major reasons for this late arrival were the ignorance of the Ottoman Turks to this kind of technological developments (the so-called "Eastern/Islamic ignorance") and the selfishness of the Ottoman learned class, the *ulema*. However, in this study, although the role of the hubris of the Ottoman cultural elite cannot be completely denied, it is emphasized that this discourse is mostly fueled by Orientalist undertones. Therefore we argue that the printing press was resisted by the Ottoman cultural elite not because they were ignorant, but because they were too sophisticated and elegant to accept to put this machine to use. To be able to understand this argument, one must first understand why and how significant the act of writing was in the Islamic tradition, the education of a calligrapher and the role of these calligraphers in the society. Therefore, we first summarize the emergence of calligraphy in the Islamic tradition, its theological background and significance, then look at the calligrapher and the society, and finally focus on the confrontation with the printing press. Without understanding the true nature and meaning of Islamic calligraphy, we believe, it is a futile task to persuade the reader why the Muslim cultural elite might have reacted reluctantly to the machine. We conclude this paper with a look at the future, by drawing attention to how computers complicates this process even further.

2. The Origins and Definition

The term *calligraphy* derives from the Greek words *graphein* (to write) and *kallos* (beautiful), thus literally meaning "beautiful writing" (Gaur, 1994:143). Yet, for the definition of the Islamic or Arabic (these modifiers are almost used interchangeably in the context of writing) calligraphy, we should go beyond that; "beautiful writing" can only be one part of it as Islamic calligraphy is in no sense a simple decoration. Albertine Gaur, in his *A History of Calligraphy*, one of the important sources we will refer to through this article, indicates that:

Calligraphy is more than beautiful writing. It results from an interaction of several essential elements: the attitude of society to writing; the importance and function of the text; definite, often mathematically based, rules about the correct interaction between lines and space,

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¹ For a comprehensive summary of various views on the printing press, see Gökhan Akçura (2012). *Cumhuriyet Döneminde Türkiye Matbaacılık Tarihi*, (İstanbul: Tarih Vakfı): 37-41.

mastery and understanding of the script, the writing material and the tools used for writing. (1994:19)

“Calligraphy” therefore, as Gaur indicates, creates its own discourse. The relationship between writing and the society, the issues of literacy, importance attributed to texts, conceptualization of writing, competency of the calligrapher, the qualities of the scribe, and the embodiment of all these characteristics at the individual level are all inherent parts of the practice of Islamic calligraphy. This is also an art governed by the rules of mathematics, as it is based on proportion and order. As many scholars demonstrate, design, harmony, tune, and unity are some of the keywords of the numerical aspect of it. In *The Splendor of Islamic Calligraphy*, Khatibi and Sijelmassi also emphasize the inherent relationship between calligraphy and its points of reference in many other fields, headed by theology and politics (1996:117). As we will see, it is impossible to imagine Islamic calligraphy without reference to Islam, and its message, which makes the art in unity with the field of theology, as well. Moreover, as not only the practice but also the adoration of calligraphy requires a spiritual exploration (1996: 170), metaphysics is another inherent part. So, it is rightly argued that Islamic calligraphy is an art of writing which is both sacred in its essence as well as it is secular, the latter suggested by the mathematics aspect of it. Put in another way, it is not only abstract but also concrete; forming a unity between the profane and the mundane. In a profession such as calligraphy which requires intense readings and writings, and which has been practiced for centuries, it is not surprising to find the calligraphers’ own definition, which is brief as yet succinct for an elaborate and complex profession as theirs: “a spiritual geometry produced with material tools” (Mahir, 3). The maxim brings together all the aspects of Islamic calligraphy together; theological and secular, physical and spiritual, and rules and beauty. Islamic calligraphy is thus, both decorative and a conveyor of knowledge, both spiritual and secular. It is “the geometry of the soul expressed through the body” (Khatibi, 1996: 14).

Unlike one might expect at first thought, the history of Islamic/Arabic calligraphy is not the same as the history of Arabic. Calligraphy originates from Islam; from the 7th century, when the Qur’an was revealed. Looking at several instances of Arabic before Islam, it is easy to see that the language was not only devoid of beauty but even the basic harmony among the letters was missing. We say this because some scholars claim that the Arabic language was suitable for beautiful writing as if it were a given, a logic which covertly underestimates the impact of Islam and how it shapes the language towards perfection. Annemarie Schimmel, in *Calligraphy and Islamic Culture*, a book which has set the ground for the study of the field for more than two decades, points out to this fact by quoting Franz Rosenthal: “the earliest Arabic documents of writing exhibit, to say the least, a most ungainly type of script” (1984: 4). Then Schimmel goes on, “one of the true miracles of Islam is how this script developed in a comparatively brief span of time into a well-proportioned, highly refined calligraphy of superb beauty.” It was thus the religious spirit which shaped the Arabic language, and gave its ultimate form. However, this does not mean to dismiss Arabic, at all. On the contrary, perfected by the religion, the language of the Qur’an is accepted as unique, one of a kind, being the only form into which God’s words can be put. Islam and Arabic cannot be thought separately from each other, which makes Arabic not the language of a nation but that of the religion of Islam in the eyes of Muslims all around the world by a consistent history throughout the centuries. This is also to say that the Qur’an and Arabic are undividable. “Allah speaks Arabic first,” say Khatibi and Sijelmassi “so the Qur’an² is not seen as a gospel to be revealed in any language. Hence the belief that the Arabic language, occurring in the Qur’an, is to be considered a miracle” (1996: 18). If God chose to speak in Arabic, and as such He did, then He was/is the One to create that language in the best manner. In Islam, writing of Arabic is thus the absolute, “the Absolute, *Sanctum Sanctorum*” (1996: 22). Although both the Old and New Testaments underwent major changes by each new translation according to the needs and desires of the kings throughout the centuries (McGrath, 2000: 172-96), the Qur’an has stayed intact and has been kept in its original form since the time it was revealed. Francis Robinson expresses the same fact saying that “For Muslims, Qur’an is the word of God—His very word. It is more central to Islamic theology than the Bible is for Christians or the Torah is for Jews. It is the divine presence” (1993: 234).

Therefore, Arabic letters is the heritage of all Islamic societies (Schimmel, 1984: 1) and it is the means by which the Divine Word could be preserved. One cannot see God, nor hear Him, a Muslim thinks, but see and read His very words. Prophet Mohammad (pbuh.) is the messenger, Muslims accept, but the message belongs to Allah, and the Qur’an is the book written by Him and Himself alone. It is also stated in the Qur’an itself that it is a work of miracle, one which will stay the same, uncorrupted and unmanufactured till the end of history; and thinking that despite the fourteen centuries passed after the revelation, the versions of Qur’an existing today is only but one—the original—makes anybody stop and mediate at least for a

² Variations may occur in the Latin transcriptions of Arabic words.

second. Calligraphy was the means to glorify the Creator's sentences, and thus the *Teacher who taught by the pen*.

Before going on to its history, we should mention a major misconception about the Islamic calligraphy with relation to the issue of iconoclasm.³ It is sometimes inaccurately believed (almost taken for granted) that the Islamic calligraphy owes its success to "Islamic iconoclasm". We should first acknowledge that the Greek term *iconoclasm*, literally meaning "breaker/smasher of images/icons" was first used not for an Islamic culture but in reference to the Christians of the Byzantine Empire in the 8th and 9th centuries, the time the term was at its height when iconoclasts destroyed the Church images and sculptures of all sorts. An iconoclast thus means not only a person who is opposed to the visual images of human beings but also a smasher of all kinds of visual representations in religion. However, the case of iconoclasm in Islam has quite different groundings, and with its literal meaning, it may not be iconoclasm. When Islam first came to the Arabic Peninsula, the people had extreme forms of polytheism and every corner was full of gods in the shapes of sculptures, statuettes, and any other visual thing having the potential to be worshipped. So, when Islam began to spread in the region, the new Muslims tried to have a brand new page in their lives, thus severely cutting their old habits which could have the risk of reminding them the past, and thus shaking or corrupting their new beliefs. "As the religion of an invisible God," state Khatibi and Sijelmassi "early Islam had to compete with the pre-existing totemistic religions, which encouraged figural representation; it had to eradicate and blot out the memory of such established practices" (1996: 18). That is why in the first centuries of Islam, people tended to keep away from paintings, sculptures and the like. However, it is also true that one can easily find the paintings of great Islamic Emperors drawn even by Western artists. The portrait of Mehmet the Conqueror by Gentile Bellini of Venice exhibited at National Gallery of London is one of the best examples. Depicting not only the kings and sultans, but also the everyday folk, the scientists, the tradesmen, and the villagers, the art of miniature practiced for a millennia is another indication on this matter.

However, when compared to the extremely visualized case of Christianity, Islam does look like an iconoclastic culture as the Prophet has not been depicted in any way. Unlike the believers of the former, Muslims do not permit the idea of seeing a make-up image of the Prophet, or the sacred four caliphs coming after the Prophet. Another important reason was and *is* the risk of replacing the God with the Prophet if an image enters into the mosques. Yet, it would not be totally accurate to state that Islamic cultures entirely banish images. In short, as we have seen above, the Islamic calligraphy has its origins in a culture of writing; in the scribe's attempt to glorify the word of God revealed through the sacred Arabic. Although iconoclasm might have an effect on the calligraphy, it would only be a secondary, an ancillary one at its best. Islamic calligraphy is not a substitute for the images, at all, "nor a compensation for the representation of the human" (Khatibi and Sijelmassi, 1996: 18).

3. Types and History

Within the limits of this paper, it would be impossible to have a detailed explanation of all the types (which are more than two hundred including incredible zoomorphic images) and of its history, but a general sketch is imperative to fully understand the impact of calligraphy in Islamic societies before the advent of the printing press. Islamic calligraphy has different types based on the shapes of Arabic letters. Moreover, Arabic does not consist of one form in which all the letters have a single shape. That is to say, the alphabet is made of four different modes; each letter having not one but four forms; the alone, the initial, the medial, and the final form. For example, *a* is written in one form when it comes at the beginning of a word, differently when it is in the middle and still in another form at the end of a word. According to the shapes of these letters, on the other hand, the Arabic calligraphy is divided into different types developed throughout the history.

To the unrefined eye, there are basically two types which can be differentiated from each other rather easily: the *Kufic* and the *Naskhi* (Khatibi and Sijelmassi, 1996: 96). To put it very roughly, the first one is angular whereas the latter one is cursive. Sharp angles define the Kufic whereas the latter is characterized by circular drawings. The Kufic is the script of first Qur'ans, and it has its name from the Islamic city of Kufa in the Arabian Peninsula, one of the first cities of Islamic civilization where calligraphy began to emerge. To give a name, Ali Ibn Abu Talib is the first to develop this style (Schimmel, 1984: 3). The history of Kufic style meaningfully dates back to the 7th century, the time of revelation, and continues onwards.

The explanation of what is known as *naskhi* script is a little more complex than that of Kufic. Although the name *naskhi* is used to refer to all cursive scripts, it is only one of such scripts. The development of cursive scripts and actually the introduction of the perfection of calligraphy in measurement and proportion, and thus the creation of Islamic calligraphy as we know it are done by another legendary

³ From Greek words, *eikono* 'image', and *klast* 'breaker'.

name, Ibn Muqla (b.886-d.940), the master combining art and numbers. "His main contribution to the development of the cursive hand," indicates Schimmel, "was to relate the proportions of the letters to that of the *alif* [the first and foremost letter in Arabic]" (1984: 18). The measurements are taken by rhomboid points according to a first drawn *alif* and the rest of the letters are written in proportion accordingly. This is the starting point where mathematics enters the art of calligraphy, shaping the geometry of the art, a system which is used up to our own day. The master's technique is also very practical as one's reed pen is enough for mathematical perfection in beauty. Highly educated by Ibn Muqla, his daughter takes over the chain of transmission, with whom Ali Ibn Hilal (d. 1032), also known as Ibn al Bawwab, study. Al Bawwab is the master who has shaped the *basmala* (the opening phrase in Arabic, *In the name of Allah, the Merciful, the Compassionate*, for not only each chapter in Qur'an, but also for every act of Muslims, who utter it at the beginning of every action) into a form which is still used with no exception whatsoever.

For the second time again, the master calligrapher, who keeps the chain of transmission of the school of al-Bawwab is a woman, Shuhda al-Katiba, from whom the last of the great medieval calligraphers, Yakut al-Mutasimi (d. 1298) takes over (Schimmel, 1984: 21). *Yakut* means in Arabic, in Persian, and in Turkish 'emerald', the most precious diamond, and the contributions of Yakut to the calligraphy are conceived on the same level of preciousness, as he led a revolutionary turning point towards the multiplication and perfection of the art. The school of this Turk living in Baghdad created what is called in Islamic Calligraphy *aqlam al-sittah* or *shish qalam*, the major six styles which ruled for the rest of the history of calligraphy (Mahir 11). The six types are the static and monumental *tuluth*, the *naskhi* mostly used for copying Qur'an, *muhakkaq*, which is good for the creation of huge Qur'ans with its extended upward strokes, *rayhani* with sharper points including diacriticals by a different pen, the smaller and more rounded *riqa*, and finally, thicker, larger but elegant *tawqi* (Gaur, 1994:102-4). His six best students were the creators of these six basic types.

Most of these developments occur between the 9th and 12th centuries in the Abbasid Dynasty, sometimes called as the Golden Age of Islam. The contributions of the Umayyads in Muslim Spain at the same centuries should also be noted. Especially the *Maghribi Script* differentiates itself easily from the above by its Kufic basis. At the turn of the 14th century there occurs, though, a radical change of hands at the development of Islamic calligraphy followed by a major change at the rule of the entire region, from the hands of Arabs to those of Turks. Established as an empire after the conquest of the then Constantinople, (the modern day Istanbul), the Ottomans make perfect not only the existing styles but also create intricate, elegant, and highly complex, new types of calligraphy, based on the Arabic language, again, the *lingua franca* of the new Islamic Empire from Mecca in the East to Gibraltar in North Africa. The perfection occurs at such levels that the common maxim in the Islamic world emerges as: "The Qur'an was revealed in Mecca, recited in Egypt, and written in Istanbul" (Schimmel, 1984: 24).

Beginning from Yakut, the chain of transmission goes on to Sheikh Hamdullah of Amasya (b. 1429-d. 1520), then to Ahmad Karahisari in the 16th century, to Hafiz Osman in the next one, and to Mustafa Rakim in the 1800s, to cite but the most famous calligraphers (Mahir 18-45), and *diwani*, *jali*, *taliq* and *mirror writing* can be given to cite but the newest styles. What we should mention is perhaps the talents and educations of the Sultans as calligraphers, and the royal calligraphy style called as *tugra*. Each Ottoman Emperor showed special interest to calligraphy, and they themselves tried to get the best education available to be able to practice this exquisite art. Sultan Bayezid II was the first and foremost student of Sheikh Hamdullah, and the sultan was only a student -nothing more- before his teacher. Suleiman the Magnificent was a talented *taliq* master (Woodhead, 1982: 60) as well as Sultan Ahmed III competed with the experts of his time. As for *Tugra*, it can best be defined as the imperial signature unique to each sultan. In addition to its elegant beauty which began to take its familiar shape in the reign of Suleiman the Magnificent, what makes it special among the other types of calligraphy is its cryptographic quality—it was almost inimitable, and could only be drawn by the royal calligraphers of the Imperial Palace at Istanbul. It was sealed on every *firman*, papers of royal orders, thus making the document an official authority as well as it was exhibited on Palace Walls and entrances, representing the Sultan. In short, it was the calligraphy par excellence.

4. A Look at the Calligrapher

Now that we have covered a compact history of calligraphy, we can analyze its significance at the personal level, focusing on its education, which leads to a proper understanding of its relation with the individual. At first, calligraphers may be thought of simple copyists. The truth could not be further than this conceptualization. In an essay about the life of an Islamic calligrapher, Christine Woodhead states,

Tradition required, and contemporary practice encouraged, the primary functions of copyist and clerk to be supported by an encyclopedic knowledge of all aspects of the Muslim cultural heritage, embracing religion, law, philosophy, history, and geography, language and literature (including both Arabic and Persian), astronomy, mathematics, and other traditional Muslim sciences. (1982:59)

As can be seen, a calligrapher is required to be competent in both theological and secular sciences. The nature of the work s/he is doing compels him/her to be aware of the nature surrounding oneself, then urging him/her in the first place to specialize in natural sciences as much as possible. As what s/he is writing is in any case the word of Allah, both in the literal sense while s/he is copying Qur'an, or in the figurative one while s/he is writing other texts, ultimately showing the same direction, s/he is required to embrace the knowledge s/he is dealing with before passing it to others. Driven by the motive to serve the God, the first and foremost reason a calligrapher writes a text is to convey Allah's verses. Verse after verse, reading after reading, the calligrapher turns into a pure intellect. The shapes one keeps using, the words one goes on writing, and the meaning one grabs day and night turn oneself into a man of letters. That is why the saying, "by walking in the valley of calligraphy, he became noted and famed" (cited in Schimmel, 1984: 36)—a maxim applicable to poets, ministers, theologians, scientists, teachers, and statespersons. It also explains why al-Muqaffa indicated, "[Calligraphy] is adornment for the prince, perfection for the wealthy, and wealth for the poor" (cited in Schimmel, 1984: 35).

To be able to become a calligrapher, thus, was not an easy thing. On the contrary, it was a path which required arduous training and years-long education. Moreover, the education might not be enough by itself, either. Some psychological traits should be a given in the prospective calligrapher: "S/he should be of sweet character and of an unassuming disposition" (1984: 37). Mir Ali of Tabriz, another legendary master, also lists "fine temperament" and "endurance of pain" as two of the five main qualities which should be looked for in a pupil (39). Then s/he can begin around a fifteen-year education, which in today's standards, corresponds to a total of primary school followed by university education plus master's study plus a Ph.D. degree. The education can begin at some age between seven and twelve, including many exceptional cases for exceptional minds. The education is based on a master-apprentice relationship which reminds us again, today's professor-graduate student relationship. All the same, just like a grad student can have his/her degree after s/he has his/her dissertation approval by a committee of elder professors, a calligrapher earns his/her *ijaza* (the official permission to use his/her own signature) by the master calligrapher of his/her school (36). In the many years left behind, the calligrapher has mastered the major styles and the *silsila*—the spiritual chain of generations of masters going all the way back to the particular founders of each style—after producing literally thousands of pages.

How many books can a calligrapher produce in his/her career, and what are the standards? This question is particularly important for us to make the argument that Muslims had already had ways to copy and multiply books easily—and with beauty—even without a printing press (Bloom, 2001: 224). A usual *warraq* ('copyist', but as we have seen, not a copyist in the familiar sense of the word) can easily write 100 perfectly beautiful pages in twenty-four hours; a better one can speed up twice as much. It is said that Muhammad Nishapuri did *compose* and write 3000 lines of poetry in a single slice of twenty-four hours despite all the noise, it is even added, surrounding him (1984: 57). The number of Qur'ans one copied all throughout one's life is a major standard of measurement for success. Yakut is said to have produced 1001 copies in his entire life. Although the number seems rather legendary, it is an accepted fact that he wrote at least two Qur'ans a month, a fact which also explains the great number of Qur'an copies attributed to him, Schimmel indicates. Ibn al-Bawwab is said to have produced 64 elegant copies of Qur'an, another unusual number validating the master's fame. Generally speaking, ranging from 11 to 44 copies, the average number of copies a calligrapher writes is around 30. As for the fastness, on the other hand, Ahmed Karahisari of the 16th century Ottomans is said to be able to write the most beautiful basmala of the time with the blink of an eye without lifting the pen even once—explaining his invention of the *multhaltal* (unbroken) basmala (Mahir 24). Such an ambitious and giant amount of work leaves behind enough wood pieces of reed pens that a pious calligrapher might order his funeral washing to be heated by this wood, a custom dating back as early as the 12th century (Schimmel, 1984: 58), an interesting aspect suggesting how the calligrapher actually becomes one with his/her art, the word of God, and thus with the world and the universe.

This idea of spiritual oneness opens the doors of mysticism and thus Sufism—the self-explorative path by which one is so much imbued with love but love alone that oneself becomes one with the God. The arduous path of calligraphy, it is believed, lifts the veil from the seen and shows one what the naked eye cannot see. Khatibi and Sijelmassi explain this notion rather interestingly through the relation between the calligraphy and the language. The Arabic is mainly consisted of consonants, and the vowels can only occur with the help of diacritical marks, which is even optional. The Ottoman Arabic, for example, does not incorporate at all the use of diacritical marks (it would be an insult, actually, to use them because the writer, if s/he uses them, it was believed, assumes the reader was not clever enough to figure out the vowels without the help of dots). Yet, the Arabic is more than self-conscious that what gives the ultimate meaning is the vowels, the unseen. Thus, the consonants are called as *sawawit* (mute letters) whereas vowels as *harakat* (symbols of movement). The theological basis lying under this philological naming and conceptualization is

already obvious: the consonantal line is accepted as the skeleton, the body whereas the vowels stand for the soul, 'the spirit of life' (1996: 90-1). The former is the corpse, the latter is the never-ending life (based on the idea of the Hereafter in Islam). One is the *zahir*/manifest whereas the other one is the *batin*/hidden. The word *harakat* used for vowels is also the word in both Arabic and Turkish for 'movement', that's infinite energy coming from the God. The mortal vs. the eternal... A Philosophy of life based on theology of Islam represented by philology of Arabic is embodied in not only the art but also the very life of the calligrapher.

5. A Calligraphic Society

A writing culture is what it adds up to when these calligraphers are thought in relation to society. What is, then, the significance of the Islamic calligraphy to the society, and culture produced thereby? This will be the last question we will handle before seeing the ultimate clash between the calligraphy and the printing machine. As we have seen already in the previous sections at several points, the art of calligraphy is first and foremost the direct representation of the level of sophistication, elegance, and taste the society has reached at. It is one of the signs of a high Islamic civilization. Perhaps it is best to use the numbers we have seen recently about the quantity of the calligraphers' works in this context: millions of lines every single day, thousands of papers every single week, and hundreds of books (written by hand) every single month... But what did they make in totals? Where did they keep all these manuscripts and books? Libraries and the number of materials they held at the time will give us the quite puzzling answer, a strong indication of this sophisticated culture. Yet, before that, to give us an idea, and a basis for comparison, let's look at some examples from the Medieval West. Jonathan M. Bloom, in his *Paper Before Print*, a work in which he shows the impact of Islamic civilization in the world asserts:

All sources agree that the libraries of medieval Christendom were uniformly small. In 841, the monastery library at St. Gall, in Switzerland, held 400 volumes; in the early 1100s, the monastery of Bobbio, in Italy held 650 volumes, by the early 1100s, the monastery of Cluny, in France, held 570 volumes in its main library." (2001: 116)

The reason why the monasteries and churches are used in the analysis is not arbitrary; they were the places holding the biggest number of materials. The volumes of collections vary, as Bloom demonstrates, from 300 to 700. The richest library in Christendom was said to be the library of the Sorbonne, in Paris, in 1338, which had 338 books for consultation, 1778 works for loan in its registers, and 300 of which were listed as lost. The collections of other European colleges were no different; 300 volumes in average.

In contrast, there were many private and public libraries all over the Islamic lands. The booksellers were an ordinary phenomena ranging from the streets of Baghdad to those in Cordoba in Spain even in the 9th century. The library of the second Umayyad caliph in Spain, al-Hakaam (b.961- d.976), only one of many others, contained 400,000 books (2001: 121). Even one tenth of this enormous size, Bloom adds, would have been larger by a factor of fifty or more than any contemporary library in Christendom. A typical *madrassa* (prevalent universities where science and religion were taught in harmony) would have at least 100,000 volumes. The Fatimi Royal Libraries in Cairo in the 1100s held, the historian Ibn Abi Tayyi writes, 1.6 million volumes.

Incredible as these figures may seem, we should not forget that this was a culture of writing, a society where manuscripts, books, and ultimately calligraphy were daily phenomena. Such a culture of writing, actually, it was that paper was not enough at all to satisfy people's desire in writing. Thus they begin to apply calligraphy on temples of Islam: the mosques; on houses of Emperors: the palaces; and to put it briefly, on everything else: plates and porcelain, pillows and curtains, goblets and flasks, garments and headgear, belts and kerchiefs, golden and silver vessels (Schimmel, 1984: 25), monuments and miniatures, sculptures and ceramics, carpets and coins, flags and fabrics (Khatibi and Sijelmassi, 1996: 185), and all in all anything regardless of whether it is possible to write something on it or not; if a calligrapher sets an eye on something to write, even if it is water, s/he finds a way to do it (the art of *eburu* is one way for example a calligrapher can write on water) . The Muslims liked the idea of living among elegant letters. Ranging from their everyday clothes to their plates they use everyday, theirs was a life devoted to letters. Even now – in a century severely broken from the essence of Islam – every Muslim household would have more than one calligraphic object in addition to the epigraphs in the frames on the walls sometimes stating Qur'anic verses such as "Help from Allah and near victory" (61; 13), other times *esmaul husna*, 99 beautiful names of God stated in Qur'an, or mostly the names, Allah and his prophet, Muhammad, in the best artistic *naskhi* scripts. Yet, calligraphy on non-paper materials reaches its apex on architecture. From the Taj Mahal in India to the Blue Mosque in Istanbul to Alhambra in Spain, the people of the three continents put the sign of their one God to glorify His name in a way unsurpassed even today. Minarets resembling the shape of *alif*, castles

built in the form of a *mim*, the initial letter of Muhammad and of the Sultan of the time⁴, and palaces sceptered by golden letters are but the most obvious manifestations.

Another vital indication the Islamic calligraphy provides us with is the social harmony among the people of this civilization. Any type of discrimination—let it be against women, different races⁵, or even against non-Muslims—is most unlikely. We have already seen several examples of women calligraphers, not just practitioners of this art, but some of the greatest masters even. After acknowledging, “Islam neither denied women literacy nor did it object to women as calligraphers,” Gaur narrates briefly some of the woman masters: The Mughal Emperor Aurangzeb’s daughter Zebunnisa (d. 1071), a great patron of poets, scholars and calligraphers, who could write three different calligraphic styles with equal skill, the Lady Malika Jahan (the name literally meaning, *the world’s angel*), whose exquisite Qur’an is exhibited in the Chester Beatty Library in Dublin, and some exceptionally bright figures from the Ottoman Empire, who received their *ijaza* at the age of twelve (106). Schimmel adds to the very beginning the Prophet’s wife, an excellent calligrapher, as well (1984: 46). The woman instances were so many that even some metaphoric maxims emerged about them. The poets of Baghdad enjoyed describing the charming girl scribe “whose ink looked like her hair, whose complexion was as white and soft as her paper, and whose eyelashes resembled pens.” Schimmel is also quick to add that the role of women calligraphers was much more important than such little verses would lead us to believe. Zaynab Shuda al-Katiba (d. 1178), and Mir Imad’s daughter Gauharshad are the two most important names he provides us (1984: 47). In his essay titled as “Women’s Roles in the Art of Arabic Calligraphy”, al-Munajjid gives us more than a dozen figures, after acknowledging the grave fact that “at the advent of Islam, only seventeen men and three women of the clan of Quraysh [the race of the Prophet] knew how to write” (1995: 141), a number which after a couple of decades turned into one that showed those who did not know how to write.

Islamic calligraphy was not an art spared for the elite, either. In Islam, one can only compete and surpass the other in faith, and faith alone—not by titles, nor by noble blood. That is how an orphaned child could turn into the prolific master of *nastaliq* style, Sultan Ali Mashadi. Another skilled master, Abdallah-I Haravi Tabbakh the Ashpaz was a cook beforehand (*ashpaz* meaning ‘cook’ in Arabic) whereas Filibeli Bakkal Arif, the leading calligrapher of the time in Istanbul was a small shop keeper (*bakkal* meaning shop in Turkish) (Schimmel, 1984: 53). The fact that the practice was even open to non-Muslims, remembering that the Prophet himself employed non-Muslims as teachers of writing, shows how broad the liberality of the society was, being free from any caste structure or the like. This is also true when we step from the side of production to that of reception: The reverence for the written word is “realized by the illiterate villager as much as the scholar and the calligrapher.” This fact “permeates Muslim life” and it is embodied “in the minute inscriptions on seals and bezels as well as in the enormous inscriptions hang between the minarets of the Ottoman mosques in Ramadan where they would be illuminated to make the Divine Word shine in the darkness” (1984: 82).

6. The Clash with the Machine

While the Islamic Empire was making real a seven-century dream of Muslims in 1453⁶, Gutenberg, interestingly enough, was coming to the end of the first printed Bible (completed in 1455), which would be called with his name thereof, *the Gutenberg Bible* (McGrath, 2001: 15). The man, Johannes Gutenberg, after finally finding a sponsor in Mainz, had set out to build his revolutionary invention—the movable type printing press—less than five years ago. In 1456, he produced 180 bibles in Latin. This German had succeeded to produce the same number of books in a single year as five calligraphers could do in their entire lives. What was the calligraphers’ reaction to this machine? Why did it take three long centuries to accept it? Was it the often-called “Ottoman ignorance” to these inventions and the resistance of the “Islamic culture” or was there an entirely different reason behind this delay?

Above, we tried to demonstrate the sophisticated and elegant nature of the Islamic calligraphic society with the hope that it will help us understand how this society would react to the machine. To make the case even more obvious yet, we will start this section by giving an analogy. Imagine a society, for a second, so much imbued with painting, a culture where every one tenth of the population is a Manet, a Michelangelo, and a Monet, some of them naturalists, some impressionists, and still some others as realists, and a society where years-long painting colleges educate these people... Imagine that every single household in this society has several paintings decorating their houses, as well. Imagine, then, another society, a lower one indeed, who would live in mud and in cottages, without the slightest idea of paintings, giving a photographic machine, a camera to the former one. Would Manets and Monets touch that “thing,”

⁴ Rumeli Hisar built by Mehmet the Conqueror as part of the preparations to conquer the then Constantinople.

⁵ This is especially out of question as at the core of the Islamic empires lied the integration among different nations and cultures. The Ottomans, for example, never referred to themselves as the *Turkish* Empire, a term rather coined in the West.

⁶ The Conquest of the then Constantinople, ending the Roman Empire, and launching a new era, May 29, 1453.

not even applying it to their lives? How would Da Vinci react if we told him that Xerox machines would replace painting and art? All the same, imagine another society with hundreds of Beethovens and Mozarts; and all the rest participating to their concerts day and night as audiences. How would they react to a machine giving out some blurry sound? In any case, in both of these scenarios, a crisis would be a given.

Such was the reaction of the elegant calligraphic society to the cold machine of printing. We can now look at the issue in more detail. The first important point is the plausible question of whether Muslims were really in need of this machine or not. Every invention, after all, should answer to a particular need in the society. However, as we have seen above, the libraries of Islam beginning from the time of the Prophet in the 7th century had already thousands of volumes, multiplied twice and thrice every single year. Bloom points out to this grave fact, "Islamic society had already developed practical and effective means of reproducing and disseminating large numbers of texts" without the printing press (2001: 224). When the movable type was invented in the 15th century, the Muslims had been a culture of writing for more than seven centuries and they had such a fountain of knowledge that "thirsty Europeans repeatedly came to drink" (2001: 91) sometimes by way of Crusades, other times as tradesmen and travelers. What the Western man saw at the Orient was a civilization beyond his imagination. Some "magic" numbers which were used for incredible calculations, great tools they had never thought of, intricate and monumental architecture beyond man's skills, and sparkling letters not only on paper but also on fabrics and stone. When those who had witnessed the Golden Age in the Orient got back to their own countries, they also tried to bring as many things as possible with them, and imitate what they had seen. "There was much sustained contact, particularly across Spain and Sicily and during the Crusades [through which] the West became fascinated by the exotic quality of Islamic art," states Safadi. "This interest was often reflected in the imitation of style, motif and technique, and extended to architectural decorative design, textiles, ceramics, metalwork, glass, and other objects of art" (2001: 128). Robes and haloes in countless Renaissance paintings are decorated with pseudo-Arabic calligraphy, which they assumed as a decorative art, rather than a language. The marble chair with the Kufic inscription in S. Pietro di Castello, Venice, a plate which has the calligraphic epigraph, *We praise Allah when we eat* belonging to the Archbishop of Ravenna, Italy, coins of numerous kings imitating the Abbasid ones, on which write *There is no God but Allah*, the famous medieval painting *Madonna* with the calligraphic confirmation of Allah on her robe, and the painting of the Coronation of The Virgin by the Italian painter Paolo Veneziano, in which the robe borders and cushions are intricately and completely decorated by Qur'anic verses (neither the painter nor the audience not having slightest idea of what they meant) are but only the most interesting examples (2001: 128-31).

These examples are given to suggest that the transfer of civilization at the time was from the Orient to the Occident, the former being incomparably more sophisticated and civilized; not the other way around. Most of the examples are from the field of art because the surviving pieces from those times are the most obvious evidences showing the impact of the Islamic civilization over the rest of the World. Yet, the influence is far beyond art. When the Christians took over the rule in Muslim Spain and thus the greatest libraries of Islam – full of centuries old Muslim heritage of sciences of all fields from philosophy to medicine to mathematics, they loved what they found. Translating those precious books day and night, which even at such a speed took several centuries to complete only one tenth, and absorbing all that wisdom, the darkness of the medieval era was beginning to sparkle, leading to the Renaissance. It was unthinkable, in short, to adapt the printing machine from the West.

More influential than the press over the Muslims was actually paper, which is another gift to the Western world by the Islamic societies. In *Paper Before Print*, Bloom states, "European Christians learned about making paper from the Muslims ("Moors") who then ruled Spain and who established the first papermills in Europe" (2001: 1). Nearly a millennium after its invention by China, the paper was made accessible not only to Europe but to Asia Minor, Middle East and North Africa by the empires of Islam. As parchments were both expensive and laborious to produce, the invention of the printing press was completely dependent on the usage of real sheets of paper; otherwise, it would be both impossible and impractical to produce large amount of editions aimed by the printing machine. Finally in the 15th century, when Gutenberg started using real sheets of paper introduced in Europe by Islamic civilization, the Muslim calligraphers had been using it for seven centuries already. That was how only one Islamic library could have 1.6 million volumes when compared to its European counterparts around 300 ones.

The first Islamic instances produced by the printing press did not make the Muslims' job easier, either. The first versions of printed Qur'an produced by Europeans in 16th century were full of grave errors, as these books were hastily prepared to create a product to sell to the East. "One look at the title page of the Qur'an printed in Hamburg in 1694," says Mahdi, "must have made Muslim readers of the Qur'an think that only the Devil himself could have produced such an ugly and faulty version of their book" (1995: 1). Add to this the fact that Muslims had been used to the beauty of writing, they had had very high standards of how

writing should be; the form had to be compatible with the content. Yet, what the print offered was full of errors, let alone mentioning beauty. From the very beginning, this instance of the first printed Qur'an shows, Muslims were intimidated by the 'disgusting' version of their glorious holy book, which led most calligraphers to think it would only bring decay to their elegant culture. The example of the West was also validating their fears: "The fact that more people wanted, and were able, to write," says Gaur while talking about the issue of printing and Western calligraphy, "brought about a leveling down of standards. [. . .] As the market grew more and more compatible, some [western calligraphers] tried to attract pupils by ever more fanciful letter shapes, baroque decorations and elaborate flourishes," (1994: 176), which did only make things worse. Almost three centuries after the first printed Qur'an, the first Arabic type cut in England by William Caslon at the beginning of the 18th century (Tracy, 1975: 87) was still far from meeting the calligraphers' standards.

Another important factor impeding the use of printing press by Muslims was sheer impracticability. While it was enough for the Latin alphabet to be reflected in print by 26 characters, the number had to be more than quadrupled to create Arabic type faces as four different sets of 29 Arabic types were required for print; one for the alone form, one for the initial, another for the middle, and finally one for the end form, making a total of 116 type faces. Yet this is just the beginning of myriad problems. As Arabic is characterized by joints between most characters, many other different forms of a single letter had to be created so that one character can be joined properly by the character following and preceding it in print. This means tens of different characters for one single initial form, tens for the middle form, and so on. There doesn't exist a disconnected way to write Arabic unlike the individual characters in Hebrew, Greek and Latin. "The Arabic script therefore presents typographical problems quite unlike those presented by other alphabets, or even by Chinese, with its thousands of discrete characters" (Bloom, 2001: 218). And we haven't even mentioned the extremely high level of skill required to combine these letters properly.

Finally, it needs to be stated that despite these major reasons that, we believe, first and foremost caused the printing press to be approached reluctantly by the Ottoman cultural elite, it cannot be completely denied that the arrogance of the Ottoman *Ulama* played a certain role in this process. Some of the *Ulama*, intellectuals of the Ottoman Empire, mostly consisted by the devout calligraphers deeply knowledgeable not only in theological but also in secular sciences, falling prey to their hubris at the final centuries of the empire, believed that if the printing press became common, then the learned would increase unprecedentedly and their authority as sources of knowledge would be broken severely. Their monopoly of knowledge (Roper, 1985: 209) would simply be shattered. A calligrapher would no longer be a revered calligrapher; not even an artist or a craftsman, but a mere teacher of writing, perhaps, they thought; the age of printed books would be the calligrapher's downfall. They wanted to keep knowledge to themselves, and themselves alone—not wanting to share it with the population at large.

What would have been the alternative? There are some exceptional instances which give us some idea about how calligraphers could have reacted to the printing press. One such figure is the calligrapher Faris al-Shidyaq of the 19th century. After seeing and involved in many practices of the printing press in Europe, this devoutly Muslim calligrapher does not just passively submit to its use, but decides to adapt it to further improve his career and becomes a strong propagandist of the print revolution (Roper, 1985: 214). He believed that printing press made knowledge safe and secure—not open to distortion as might be the case in individual writings—and ever-increasing; thanks to it, there was no danger of the disappearance of information, at all. He was also highly aware of the threat it posed to the intellectual elite of his time: "Much of our literature," he complained, "is possessed by a few individuals who do not think it in their interest to give it a wider spread among the people" (cited, 214). The printing press would not only break the monopoly but it would also make books much easier to be obtained and read and collected. As for his career, he cut, developed and improved Arabic type faces in numerous countries, combining his calligraphic skills with the new machine. He presented to the calligraphers a new golden path they could combine with their already perfected background in writing: that of the printer and designer (of typefaces). Al-Shidyaq not only opened publishing houses but also published his own intellectually sophisticated newspapers, aiming on and on faithful distribution and dissemination of information. One cannot help but think what would have happened when the calligraphers of the previous centuries had adapted his way. To what levels of civilization would a society which had already been imbued with writing have reached once the calligraphers had combined their art and elegance with book publishing? To what levels of success would they have reached if they had listened to the prophet's maxim, "*Seek knowledge as far as China*" or "*Wisdom is the Muslim's lost heritage, grab it wherever you find it*" and adapt the printing press? We will never be able to answer this question truly as the Muslim world did resist to the printing press up to 18th century (Messick, 1993: 115).

Although the Muslim societies missed an important chance not only to keep their civilization intact but also to improve it way much better, today, in the 21st century, there is an important opportunity to catch up with the scholarship of the West. The digital age offers unprecedented opportunities for knowledge, and everything else. The important thing concerning our issue is that the font types for Latin, Hebrew, and Arabic alphabets for the electronic screen occurred almost at the same time. Unlike the different times in shift to print culture by different societies, the shift to the computers and the Internet by different cultures emerged relatively at the same time.

Driven by Linotype-Paul of London, one of the major computer directed photo-typesetting systems, Linotron 505C made the first Arabic composition in computer possible with a hundred per cent precision in the first half of the twentieth century (Tracy, 1975: 88). The program not only transferred the divine language of Islam into computer, but it also made it a lot easier to use, as the program itself decided the correct form to use once the writer started hitting the keys. Later on, Osman Hussein of Damascus introduced the finest examples of calligraphy (in *naskhi* script) on the electronic screen. Publishers and printers in the Muslim world have been quick, this time, to realize the advantages of the Linotron and Lino-film computer typesetting systems that almost every major Muslim city is now installed with. Tracy also notes how the revolutionary new medium aligned the rows to the same position: "The development of computer programs for the typesetting of Arabic, Persian, and other languages now places the printer in the Near East on the same technological level as the printer in the Western world" (1975: 90-1). Thanks to these programs, now it is possible to create font types other than the prevalent *naskhi* and create the kind of variety and color not only the publishing industry needs but also thanks to which the calligraphic culture can revive.

Mahdi points out to the same point yet by a different path, by drawing out attention to the similarity between the manuscript age and the electronic books: "copies can be made and subjected to continuous change and improvement, free of the fixed form introduced by printing and the movable type" (1995: 13). Sooner or later, the electronic books consisting of digitized text, animated graphics, and many other elements will replace the book as it was known in the manuscript age and the book in print as it will be the best way to access the content of books, including even those in manuscript or print form. He is quick to add that whether we could learn the lessons of the delays from the transition to the print age will shape the results (1995: 14). The possibilities one estimates are mostly optimistic.

7. Conclusion

In today's world, Islam is associated with the most derogatory discourse including "terror," "bombings," "deaths," and "war," which makes it very hard, if not impossible, for a mind infused with and fed by such representations to bring the words *Islam* and *civilization* side by side. This discourse also affects the historiography about the printing press and Islamic calligraphy very negatively by reinforcing the Orientalist narratives about the so-called "backwardness" of Islam or the so-called "lack of interest" or resistance of Muslims to technological inventions. However, when the recent decades of history, which are less than a drop of water compared to the ocean of history, are set aside, we see not only an example of Islamic civilization but the many Empires of Islam, which were not led by the sword as much as they were done by the pen as encouraged by the Qur'an, the holy book of Islam. Starting from Prophet Mohammad's (pbuh.) Mecca to the Baghdad of the Abbasids, from Cordoba in Spain of the Umayyad to the Istanbul of the Ottoman Empire, this was a world governed for centuries by the Pen. Therefore, to be able to deconstruct this discourse, it is first and foremost imperative to understand the significance of calligraphy and its associations with the civilization.

To understand the true nature of the confrontation between calligraphy and the printing press, first we looked at the meaning and history of the art of calligraphy and its significance in the Islamic societies and then the education and qualities of calligraphers. Finally, we saw the amount and quality of books produced by these individuals. In conclusion, we have tried to argue that Muslims did not resist to the printing press because they were ignorant or illiterate; on the contrary, because they considered writing too sacred, valuable and important to simply be copied by an imperfect machine such as the first instances of the printing press. Although it is undeniable that the hubris of some of the master calligraphers played a role in this resistance, it is also unfair to completely explain this phenomenon with their role.

In calligraphy, all the letters come out distorted when the calligrapher makes the slightest error while trimming the pen. We hope our pen was just as right.

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