

Investigation on the Ancient Quran Folios of Birmingham

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SUMMARY

In 2015, some scientists of the University of Birmingham discovered that four folios containing some ancient Quran manuscripts dated from the period of the Prophet's companions (*i.e. few years after the death of the Prophet*). In fact a radiocarbon analysis showed that there is a 95.4% chance that the parchment on which the Qur'an fragments were written can be dated sometime between the years 568 and 645CE. This means that the animal from which the skin was taken was living sometime between these dates. Furthermore, we know that the Prophet lived between 570 and 632CE, which makes this discovery quite interesting by showing that this manuscript could be one of the oldest manuscripts in the world, or at least dating from the first centuries after the Prophet death.

In this investigation, we are not going to confirm that discovery, but only checking whether the ancient text is similar to the present Quran or not.

The first results based on character analysis, word analysis, phonetic analysis and semantic analysis have shown that the Birmingham Quran manuscript is similar to its corresponding part contained in the present Quran (*Hafs recitation*). According to this investigation, it appears that the Quran has been safely preserved during the last 14 centuries without alteration.

1. Introduction on the Birmingham Quran manuscript

The Birmingham Quran manuscript consists in four pages made of parchment, written in ink, and containing parts of chapters 18, 19 and 20 of the holy Quran. The manuscript forms part of the University of Birmingham's Mingana Collection of Middle Eastern manuscripts, held in the Cadbury Research Library [Birmingham, 2015].

The manuscript was bought in the 1930s by Sir Alphonse Mingana. Mingana was building a world-class manuscript collection in Birmingham. Sir Cadbury (*the Birmingham-based Quaker philanthropist and businessman*) named this collection "the Mingana Collection" after its first curator [Hopwood, 1961]. The collection came to the University of Birmingham in the late 1990s.

Concerning the palaeographic aspect of the manuscript (*Titled Hejazī text*), the handwriting geometry suggests that it may have been created in the Hejaz area in the west of the Arabian Peninsula, which includes the sacred cities of Mecca and Medina. In fact there are several old manuscripts dating from the first centuries after the Hijra, where we can clearly see the difference in the palaeographic style [Awwad, 1982]. The palaeography can give a quite good estimation on the probable date of the manuscript, but the radiocarbon dating is usually more accurate. This last technique is widely used in archaeological dating [Taylor, 1997].

Thus, the radiocarbon analysis, made at the *Radiocarbon Accelerator Unit* of Oxford University [Ramsey, 2009], yielded the following technical dating results [Birmingham, 2016]:

- OxA-29418 Parchment,
- MS1572 Cadbury Research Library,
- $\delta^{13}C = -21.04 \pm 21$ BP.

The resulting calibrated date range is as follows:

- OxA-29418
- R_Date (1461,21)
- 95.4% probability 568 (95.4%) 645 calAD

The technical results are under publication in Datelist, Archaeometry journal of Oxford University.

Hence, the manuscript has been radiocarbon dated by the University of Oxford (*Radiocarbon Accelerator Unit*) to the date range of 568–645 CE with a 95.4% degree of confidence. The radiocarbon result means that the animal from which the skin was taken was living sometime between these specific dates. This places the discovered parchment close to the lifetime/death of the Prophet who lived between 570 and 632 CE.

Some researchers argued that the manuscript is among the earliest written textual document of the Quran known to survive, which was written few years after the Prophet death. They also claim that it should probably be the oldest Quran manuscript in the UK.

That is, in this investigation, we try to check whether the ancient text is similar to the present Quran or not by the mean of comparative analysis.

2. Notes on the ancient Arabic handwriting

In this section we will present a short overview on some particularities of the ancient Arabic text.

2.1. Notes on the ancient Arabic characters

The ancient Arabic characters are a bit different from what we are used to write nowadays. In fact, as displayed in figure 1, there is a correspondence between the ancient characters (*in the left column*) and the new corresponding ones (*in the right column*).

ل	ل	ا
ر	ر	ب
ر	ر	ب
ر	ر	ب
د	د	ن
د	د	ن
د	د	ن
ك	ك	ح
ك	ك	ح
د	د	ح
د	د	ح
س	س	ع
س	س	ع
ط	ط	ع
ط	ط	ع
ط	ط	ع
ع	ع	س
ع	ع	س
و	و	س
و	و	س
و	و	س
ز	ز	س
ز	ز	س
ز	ز	س
ه	ه	س
ه	ه	س
ه	ه	س
ي	ي	س
ي	ي	س
ي	ي	س

Figure 1: Ancient Arabic characters (*in the left*) and their correspondance (*in the right*)

2.2. Note on the "Diacritics and rasm dots"

Another particularity of the ancient Arabic manuscript, is the fact that the text was not vocalised and did not contain Rasm dot marks.

For example let us look at the word *Alaiha* (عليها):

- Ancient text of the word *Alaiha*



Figure 2: Ancient text of the word *Alaiha*

- Present text of the word *Alaiha*



Figure 3: Recent text of the word *Alaiha*

2.3. Note on the "silent alif"

The Ancient Quran text was not vocalised and often not accompanied by elongation marks.

The natural prolongation, called: *Al-Madd Al-tabee*, is the act of prolonging or “stretching” the sound of the three *madd* letters [Muqith, 2011].

For instance, in English, instead of saying "ARE", we may pronounce "AARE" by prolonging the “A” duration.

All *huroof al-madd* are silent, which means that they have no diacritic on them.

For the case of the vowel A (*fatha* in Arabic), the *fatha* must be present on the letter before a silent *alif* (*elongated A*). The elongation mark for the *fatha* is called “silent *alif*”.

We notice that in the ancient manuscripts, the silent *alif* (*elongated A*) was not very used as it is the case in the recent Arabic text.

Here is a concrete example on that fact: in the modern Arabic script the verb **(HE) SAID** is written *qaala* (قال), while in the ancient Arabic it was often written *qala* (قال) without silent *alif*.

So, it is not surprising to see the ancient Quran manuscript without diacritics or without elongation marks, since most of these marks were invented several centuries afterward.

Even for the ancient English script some inexistent marks (*no more used at present*) were employed such as the upper macron diacritic (*straight bar placed above the letter*), which represented an elongation of the vowel (*long vowel*). However, the modern English does not employ them anymore. Here is an example: The ancient elongated U in English was written Ū while in the modern language it is simplified to a simple U character.


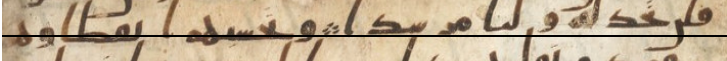

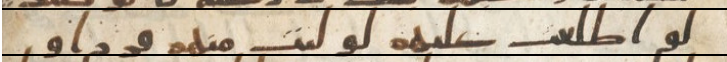




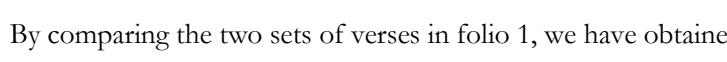

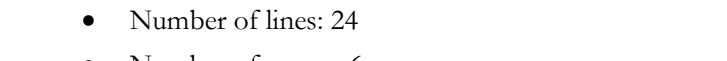
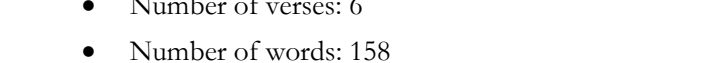
3. Analysis of the Birmingham Quran

In this section we will make a comparative analysis of the four ancient folios with regards to their corresponding verses in the present universal Quran (*Recitation of Hafṣ*).

3.1. Analysis of Folio 1

The following table consists of two columns; the left one contains the first Birmingham Quran folio and the right one contains the corresponding verses in the present universal Quran, as written in the Saudi holy book (Hafs rasm without vocalisation). The diacritics and modern writing rasm have been removed to put the two texts in the same writing conditions.

Table 1: Comparative analysis of Folio 1

Birmingham Quran	Present Quran (old rasm without vocalisation)
	الله من يهد الله فهو المهتد ومن يضلل
	فلن تجد له وليا مرشدا (17) وتحسبهم ايقاظا وهم
	رقودا وتقلبهم ذات اليمين وذات ا
	لشمال وكلبهم بسط ذراعيه بالوصيد
	لو اطلعت عليهم لوليت منهم فرارا و
	لملت منهم رعيا (18) وكذلك بعثتهم ليتسا
	لوا بينهم قال قائل منهم كم لبثتم قالوا لبثنا
	يوما او بعض يوم قالوا ريكم اعلم بما
	لبثتم فابعثوا احداكم يورثكم هذه
	الى المدينة فلينظر ايها اركى طعاما
	فلياتكم برزق منه وليتطف ولا يشعروا
	بكم احدا (19) انهم ان يظهروا عليكم
	يرجموكم او يعبدوكم في ملتهم ولن تغلحو
	ا اذا ابدا (20) وكذلك اعترنا عليهم
	ليعلموا ان وعد الله حق وان الساعة
	لا ريب فيها اذ يتنزعون بينهم امرهم
	فقالوا ابناو عليهم بنينا ريكم اعلم
	بكم قال الذين غلبوا على امرهم لنتخذن
	عليهم مسجدا (21) سيقولون ثلثة رابعهم
	كلبهم ويقولون خمسة سادسهم كلبهم
	رجما بالغيب ويقولون سبعة وثامنهم
	كلبهم قل ربي اعلم بعدتكم ما يعلمهم
	الا قليل فلا تمار فيهم الا مراء ظهرا و
	لا تستفت فيهم منهم احدا (22) ولا تقولن

By comparing the two sets of verses in folio 1, we have obtained the following statistics.

Statistics of folio 1:


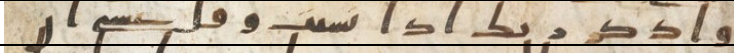

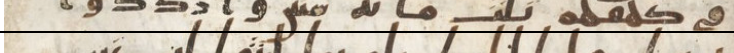


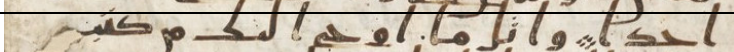
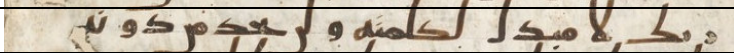
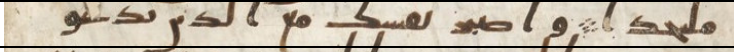
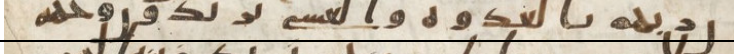

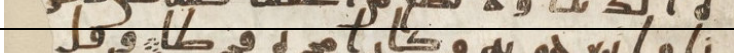
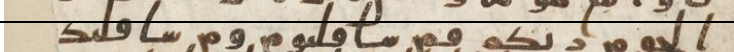
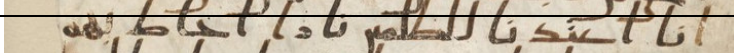
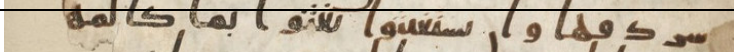

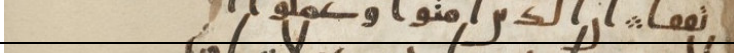

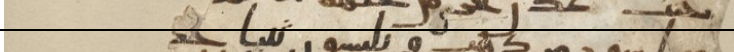

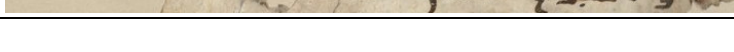
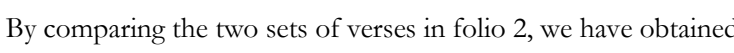

- Number of lines: 24
- Number of verses: 6
- Number of words: 158
- Number of Characters: 678
- Difference in words: 0%
- Difference in characters without considering the "silent *alif*": 0%

- Difference in characters by considering the “silent *alif*”: 1.92%
- Semantic Difference: 0%
- Phonetic Difference: 0%

3.2. Analysis of Folio 2

The following table consists of two columns; the left one contains the second Birmingham Quran folio and the right one contains the corresponding verses in the present universal Quran, as written in the Saudi holy book (Hafs rasm without vocalisation). The diacritics and modern writing rasm have been removed to put the two texts in the same writing conditions.

Table 2: Comparative analysis of Folio 2

Birmingham Quran	Present Quran (old rasm without vocalisation)
	لشاي اني فاعل ذلك غدا (23) الا ان يشاء الله
	واذكر ربك اذا نسيت وقل عسى ان
	يهديني ربى لا اقرب من هذا رشدا (24) ولبيوا
	في كهفهم ثلث مائة سنين وازدادوا
	تسعا (25) قل الله اعلم بما لبثوا له غيب
	السموات والارض ابصر به واسمع ما
	لهم من دونه من ولي ولا يشرك في حكمه
	احدا (26) واتل ما اوحى اليك من كتاب
	ربك لا يبدل لكلمته ولن تجد من دونه
	ملتحدا (27) واصبر نفسك مع الذين يدعو
	ن ربحم بالغدوة والعشي يريدون وجهه
	ولا تعد عينك عنهم تريد زينة الحيوة
	الدنيا ولا تطع من اغفلنا قلبه عن ذكر
	نا واتبع هوبه وكان امره فرطا (28) وقل
	الحق من ربكم فمن شا فليؤمن ومن شا فليكفر
	انا اعتدنا للظالمين نارا احاط بهم
	سرادقها وان يستغيثوا يغاثوا بما كالمهل
	يشوي الوجوه بئس الشراب وسات مر
	تفقا (29) ان الذين امنوا وعملوا الصلحت انا
	لا نضيع اجر من احسن عملا (30) اولئك لهم
	جنت عدن تجري من تحتهم الانهر يحلون فيها
	من اساور من ذهب ويلبسون ثيابا خضرا من سندس
	واستبرق متكئين فيها

By comparing the two sets of verses in folio 2, we have obtained the following statistics.

Statistics of folio 2:






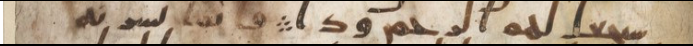
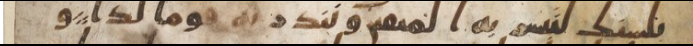




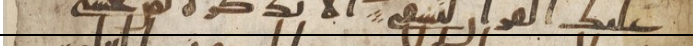
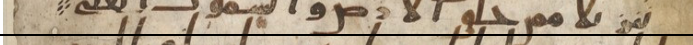

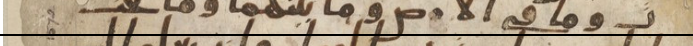
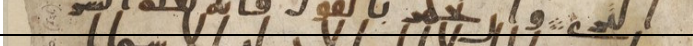

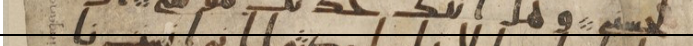

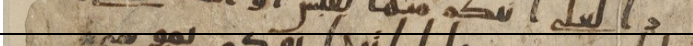



- Number of lines: 23
- Number of verses: 9
- Number of words: 164
- Number of Characters: 632
- Difference in words: 0%

- Difference in characters without considering the “silent *alif*”: 0%
- Difference in characters by considering the “silent *alif*”: 1.26%
- Semantic Difference: 0%
- Phonetic Difference: 0%

3.3. Analysis of Folio 3

The following table consists of two columns; the left one contains the third Birmingham Quran folio and the right one contains the corresponding verses in the present universal Quran, as written in the Saudi holy book (Hafs rasm without vocalisation). The diacritics and modern writing rasm have been removed to put the two texts in the same writing conditions.

Table 3: Comparative analysis of Folio 3

Birmingham Quran	Present Quran (old rasm without vocalisation)
	دعوا للرحمن ولدا (91) وما ينبغي للرحمن
	ان يتخذ ولدا (92) ان كل من في السموات وا
	لا ارض الا ابي الرحمن عبدا (93) لقد احصهم
	وعدهم عدا (94) وكلهم اتيه يوم القيمة
	فردا (95) ان الذين امنوا وعملوا الصلحت
	سيجعل لهم الرحمن ودا (96) فانما يسرناه
	بلسانك لتبشّر به المتقين وتذّر به قوما لدا (97) و
	كم اهلكنا قبلهم من قرن هل تحس منهم من احد او
	تسمع لهم زكرا (98)
	***** سورة طه *****
	بسم الله الرحمن الرحيم طه (1) ما انزلنا
	عليك القرآن لنشقى (2) الا تلذّكره لمن يخشى (3)
	تنزيلا ممن خلق الارض والسموات العلى (4)
	الرحمن على العرش استوى (5) له ما في السموا
	ت وما في الارض وما بينهما وما تحت
	الثرى (6) وان تجهر بالقول فانه يعلم السر
	واخفى (7) الله لا اله الا هو له الاسماء ا
	لحسنى (8) وهل اتك حديث موسى (9) اذ
	رعا نارا فقال لاهله امكنوا اني اتست نا
	را لعلي اتيكم منها بقرى او احد على ا
	لنار هدى (10) فلما اتها نودي بموسى (11)
	اني انا ربك فاخلف نعليك انك با
	لواد المقدس طوى (12) وانا اخترتك

By comparing the two sets of verses in folio 3, we have obtained the following statistics.

Statistics of folio 3:




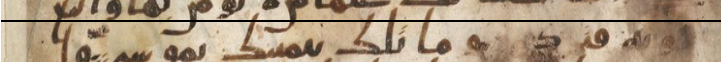

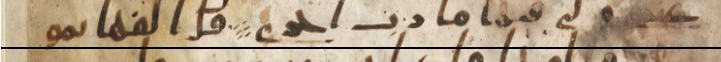






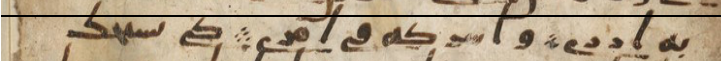
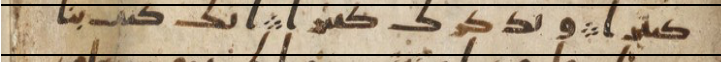
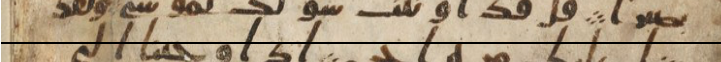
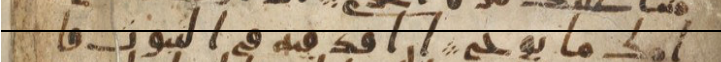
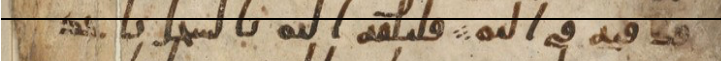
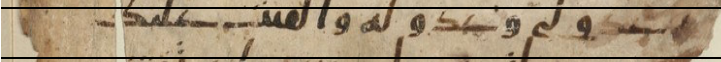

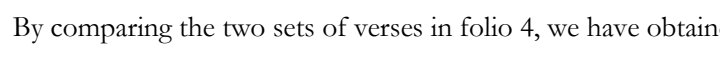

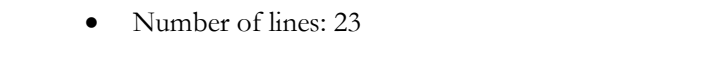

- Number of lines: 23
- Number of verses: 20
- Number of words: 156
- Number of Characters: 600

- Difference in words: 0%
- Difference in characters without considering the “silent *alif*”: 0%
- Difference in characters by considering the “silent *alif*”: 0.33%
- Semantic Difference: 0%
- Phonetic Difference: 0%

4.4. Analysis of Folio 4

The following table consists of two columns; the left one contains the fourth Birmingham Quran folio and the right one contains the corresponding verses in the present universal Quran, as written in the Saudi holy book (Hafs rasm without vocalisation). The diacritics and modern writing rasm have been removed to put the two texts in the same writing conditions.

Table 4: Comparative analysis of Folio 4

Birmingham Quran	Present Quran (old rasm without vocalisation)
	فاستمع لما يوحى (13) اني انا الله لا اله الا
	انا فاعبدني واقم الصلوة لذكري (14) ان ا
	لساعة اتية اكاد اخفيها لتجزى كل نفس بما
	تسعى (15) فلا يصدنك عنها من لا يؤمن بما واتبع
	هوه فتردى (16) وما تلك بيمينك موسى (17) قال
	هي عصاي اتوكا عليها واهش بما على
	غنمي ولي فيها مارب اخرى (18) قال القها بمو
	سى (19) فالقها فاذا هي حية تسعى (20) قال خذ
	ها ولا تخف سنعيدها سيرتها الاولى (21) و
	اضمم يدك الى جناحك تخرج بيضاء من
	غير سوء اية اخرى (22) لئريك من ابتنا الكبرى (23)
	اذهب الى فرعون انه طغى (24) قال رب ا
	شرح لي صدري (25) ويسر لي امري (26) واحلل
	عقدة من لساني (27) يفقهوا قولي (28) واجعل
	لي وزيرا من اهلي (29) هرون اخي (30) اشدد
	به ازري (31) واشركه في امري (32) كي نسبحك
	كثيرا (33) وتذكرك كثيرا (34) انك كنت بنا
	بصيرا (35) قال قد اوتيت سؤلك بموسى (36) ولقد
	مننا عليك مرة اخرى (37) اذ اوحينا الي
	امك ما يوحى (38) ان افذفيه في التابوت فا
	قذفيه في اليم فليلقه اليم بالساحل ياخذ
	هر عدو لي وعدو له والقيت عليك
	محبة مني ولتصنع على عيني (39) اذ تمشي

By comparing the two sets of verses in folio 4, we have obtained the following statistics.

Statistics of folio 4:

- Number of lines: 23

- Number of verses: 27
- Number of words: 169
- Number of Characters: 633
- Difference in words: 0%
- Difference in characters without considering the “silent *alif*”: 0%
- Difference in characters by considering the “silent *alif*”: 1.4%
- Semantic Difference: 0%
- Phonetic Difference: 0%

3.5. Statistical analysis of all the folios

Now, by taking the whole Birmingham Quran and comparing this last one with the present universal Quran (*Hafs recitation*), we obtain the following statistical results.

Statistics of all the folios:

- Number of lines: 93
- Number of verses: 62
- Number of words: 647
- Number of Characters: 2543
- Difference in words: 0% (i.e. similarity of 100%).
- Difference in characters without considering the “silent *alif*”: 0% (i.e. similarity of 100%).
- Difference in characters by considering the “silent *alif*”: 1.26% (i.e. similarity of about ~99%).
- Semantic Difference: 0% (i.e. similarity of 100%).
- Phonetic Difference: 0% (i.e. similarity of 100%).

Hence, the comparative analysis of all the folios can be summarised by the following table.

Table 5: Similarity between the ancient folios and the current holy Quran

Comparison between the ancient folios and the current holy Quran	Similarity in %
Similarity in terms of words	100 %
Similarity in terms of characters without considering the “silent <i>alif</i> ”	100 %
Similarity in terms of characters by considering the “silent <i>alif</i> ”	~99%
Similarity in terms of semantics	100 %
Similarity in terms of phonetic pronunciation	100 %

4. Conclusion

In this investigation, we conducted a comparative analysis between the Birmingham Quran folios and the corresponding verses of the present version of the Quran (*Hafs recitation*), based on characters, words, phonetics and semantics.

We also recall that the Birmingham Quran parchment, has been carbon-dated to the first century of Hijra (*i.e. probably few years after the Prophet death*).

According to this investigation, which made a statistical comparison between this ancient Quran folios and the present universal one (*Hafs recitation preserved by the Saudi authorities*), it appears two important

conclusions:

- The two analysed text documents are similar in terms of characters (*similarity of about 99~100%*) and similar in terms of words (*similarity of 100%*);
- The two analysed text documents are similar in terms of phonetics (*similarity of 100%*) and similar in terms of semantics (*similarity of 100%*);

Consequently, and since the ancient Birmingham scripture was found to be similar to the present holy scripture, it appears that the Quran has been safely preserved during the last 14 centuries without alteration. Hence, if the radiocarbon dating is quite accurate, we can say that this new discovery confirms that the present holy book represents an authentic copy of the first original Quran that was recited by the Prophet fourteen centuries ago.

Furthermore, in the verse (15:9): «إِنَّا نَحْنُ نَزَّلْنَا الذِّكْرَ وَإِنَّا لَهُ لَحَافِظُونَ», it is clearly stated that the Holy Scripture is/will be protected and preserved by His Creator; which is in total concordance with this new scientific result.

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